Cavendish

David Cunning

ROUTLEDGE

ARGUMENTS OF THE PHILOSOPHERS

CAVENDISH

Margaret Cavendish (1623–1673) was a philosopher, poet, scientist, novelist, and playwright of the seventeenth century. Her work is important for a number of reasons. It presents an early and compelling version of the naturalism that is found in current-day philosophy; it offers important insights that bear on recent discussions of the nature and characteristics of intelligence and the question of whether or not the bodies that surround us are intelligent or have an intelligent cause; and it anticipates some of the central views and arguments that are more commonly associated with figures like Thomas Hobbes and David Hume.

This is the first full account of Cavendish's philosophy and covers the whole span of her work. David Cunning begins with an overview of Cavendish's life and work before assessing her contribution to a wide range of philosophical subjects, including her arguments concerning materialism, experimentation, the existence of God, social and political philosophy and free will and compatibilism.

Setting Cavendish in both historical and philosophical context, he argues that like Spinoza she builds on central tenets of Descartes' philosophy and develops them in a direction that Descartes himself would avoid. She defends a plenum metaphysics according to which all individuals are causally interdependent, and according to which the physical universe is a larger individual that constitutes all of reality.

Cavendish is essential reading for students of seventeenth-century philosophy, early modern philosophy and seventeenth-century literature.

David Cunning is Associate Professor and Chair of Philosophy at the University of Iowa, USA. He is the author of *Argument and Persuasion in Descartes' Meditations* (2010), and *Everyday Examples: An Introduction to Philosophy* (2014), and editor of *The Cambridge Companion to Descartes' Meditations* (2014).

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CAVENDISH

David Cunning

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TO MIRA GREY

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A COUPLE OF PREFATORY NOTES

The original Cavendish texts contain some mis-spellings and also some spellings that are no longer standard. I have kept all of the original spellings.

In some cases I quote more than one (and sometimes more than two) passages from the Cavendish corpus as evidence of her views or arguments. I do this because her texts may not be as readily familiar as those of other philosophers, and a reader might not know just from the reference information which text is being called into play.

ABBREVIATIONS

Poems and Fancies	*Poems, and fancies written by the Right Honourable, the Lady Margaret Newcastle*, London: Printed by T.R. for J. Martin, and J. Allestrye (1653).
PF	*Philosophicall fancies. Written by the Right Honourable, the Lady Newcastle*, London: Printed by Tho. Roycroft, for J. Martin, and J. Allestrye, at the Bell in St. Pauls Church-yard (1653).
WO	*The worlds olio written by the Right Honorable, the Lady Margaret Newcastle*, London: Printed for J. Martin and J. Allestrye (1655).
PPO	*The philosophical and physical opinions written by Her Excellency the Lady Marchionesse of Newcastle*, London: Printed for J. Martin and J. Allestrye (1655).
Playes	*Playes written by the thrice noble, illustrious and excellent princess, the Lady Marchioness of Newcastle*, London: Printed by A. Warren, for John Martin, James Allestrye, and Tho. Dicas (1662).
ODS	*Orations of divers sorts accommodated to divers places written by the Lady Marchioness of Newcastle*, London (1662).
PL	*Philosophical letters, or, Modest reflections upon some opinions in natural philosophy maintained by several famous and learned authors of this age, expressed by way of letters / by the thrice noble, illustrious, and excellent princess the Lady Marchioness of Newcastle*, London (1664).
SL	*CCXI sociable letters written by the thrice noble, illustrious, and excellent princess, the Lady Marchioness of Newcastle*, London: Printed by William Wilson (1664).
OEP	*Observations upon experimental philosophy to which is added The description of a new blazing world / written by*

	the thrice noble, illustrious, and excellent princesse, the Duchess of Newcastle, London: Printed by A. Maxwell (1666).
BW	*The description of a new world, called the blazing-world written by the thrice noble, illustrious, and excellent princesse, the Duchess of Newcastle*, London: Printed by A. Maxwell (1668).
GNP	*Ground of natural philosophy divided into thirteen parts : with an appendix containing five parts / written by the … Duchess of Newcastle*, London: Printed by A. Maxwell (1668).
NP	*Natures picture drawn by fancies pencil to the life being several feigned stories, comical, tragical, tragi-comical, poetical, romancical, philosophical, historical, and moral: some in verse, some in prose, some mixt, and some by dialogues / written by … the Duchess of Newcastle*, London: Printed by A. Maxwell (1671).
A True Relation	*A True Relation of my Birth, Breeding and Life, in Margaret Cavendish, The Life of William Cavendish, Duke of Newcastle, to which is added the True Relation of my Birth, Breeding and Life*, ed. C.H. Firth, London: George Routledge & Sons Limited (1880).

INTRODUCTION

Biography

Margaret Lucas was born in 1623 in Colchester, Essex. She resided there for most of her first two decades, at St. John's Abbey, and then after a short time in Oxford she lived in Paris and Antwerp, as an exile from the English Civil War. She returned to England upon the restoration of Charles II to the throne in 1660, alternating between London and the Cavendish family estate at Welbeck in Nottinghamshire. She was extraordinarily prolific in her fifty years of life, publishing twelve books and two collections of plays. Named Duchess of Newcastle in 1665, she was famous for her unusual occupation as a woman writer, and she was famous for being unusual more generally. She died in 1673, laid to rest at Westminster Abbey in a manner befitting an individual of significant achievement and fame. Her intellectual and creative achievements were remarkable, especially given her lack of access to formal academic training. Her philosophical monographs include *Philosophical and Physical Opinions* (1655), *Philosophical Letters* (1664), *Observations Upon Experimental Philosophy* (1666), and *Ground of Natural Philosophy* (1668). She offers original and compelling arguments throughout these and other philosophical works; the voices of her fiction then extend those discussions in ways that are fruitful and illuminating. In her larger corpus she treats such perennial philosophical issues as the mind–body problem; individuation; free will and agency; the nature and existence of empty space; the nature and existence of God; the think-ability of God; the limits of human cognition; self-interest vs. other-directed interest; possibility vs. necessity; and the pros and cons of the different available reactions to hardship and misfortune. She also addresses matters that are not as perennial in the history of philosophy, including gender equality, embodied intelligence, and animal cruelty. In her own lifetime, Cavendish was best known for her literary contributions, but her philosophical work was systematic and groundbreaking.

Cavendish was a person of privilege, but for a person of privilege she led a difficult life. Her father died when she was just an infant, and then starting in her early twenties, she would spend close to two decades in exile after the unseating of King Charles I by Parliament.[1] Throughout, she suffered from a

devastating shyness that accompanied her on a daily basis and that seems never to have dissipated. She remarks in her autobiography,

> I was so bashful when I was out of my mother's, brothers', and sisters' sight, whose presence used to give me confidence – thinking I could not do amiss whilst any one of them were by, for I knew they would gently reform me if I did; besides, I was ambitious they should approve of my actions and behavior – that when I was gone from them, I was like one that had no foundation to stand, or guide to direct me, which made me afraid, lest I should wander in ignorance out of the ways of honour, so that I knew not how to behave myself.[2]
>
> My bashfulness is my nature, not for any crime, and though I have strived and reasoned with myself, yet that which is inbred I find is difficult to root out.[3]
>
> This natural defect in me, if it be a defect, is rather a fear than a bashfulness, but whatsoever it is, I find it troublesome, for it hath many times obstructed the passage of my speech, and perturbed my natural actions, forcing a constrainedness or unusual motions.[4]

Perhaps surprising in the light of her shyness is that Cavendish applied to serve on the court of Queen Henrietta Maria in 1640. The position would be socially demanding, and indeed it appears that one of the reasons that Cavendish sought it is that she wanted to become more worldly and to secure practice at being comfortable in the presence of individuals who were not familiar.[5] As she notes, she made other efforts to neutralize her shyness: she "strived and reasoned with [her]self" to keep it at bay. In applying to serve on the queen's court, she was willing to initiate a more sudden intervention as well. She was selected, but in the end (and indeed from the beginning) she found the experience to be quite unpleasant. The small talk and social interaction, the constant presence of individuals with whom she felt uneasy, and with whom she did not identify – these increased her sense of isolation and loneliness.[6] Very early on, she pleaded with her mother and siblings to allow her to return to the family home at St. John's Abbey, but they demanded that she follow through on her commitment. Her family was concerned about the development of her character and reputation, but also about the social and political fallout that might ensue if she abandoned her post too quickly.[7]

Things did not take long to get even more difficult for Cavendish (and, to be sure, for many others). Conflict had long been simmering between King Charles I and the English Parliament. They disagreed about taxation – the King wanted more money, in part for purposes of war, and the landowners who dominated Parliament did not want to pay. There was disagreement about religion – the King promoted the Anglicanism that was crafted by his monarchical forebears, but Parliament tended to side with the campaign of

the Puritans. The parliamentarians did not want to pay taxes to finance the King's Anglican (or even his non-Anglican) agenda, and the growing tension would soon devolve into civil war.[8] The consequences for Cavendish would be very concrete, both immediately and in the long term. The Lucas family had aligned itself with the crown, tracing back to the time before her birth. Parliamentary sympathizers would sack and loot the Colchester estate in 1642, and her mother and siblings would be embattled for years to come. Cavendish herself would never return to her childhood home. She went into exile with Queen Henrietta Maria in 1644, at the residence of the queen's mother in Paris.[9] Cavendish did not speak French; she was still incredibly shy; she was far removed from her family; she had little sense of when she might finally return to something that was identifiable to her as home. She would spend most of her next two decades at different locations in Europe before finally settling into a situation of what felt like normalcy. We know that Cavendish suffered from severe melancholy throughout stretches of her life, and circumstances clearly did not help.[10]

An additional source of frustration for Cavendish was her desire to write, though this was a source of frustration mostly because she lived in a cultural context in which women's writing was not well-received. Cavendish sought not only to write, but to be a writer of prominence and fame,[11] and of course the latter achievement would not be entirely up to her. She exhibited an interest in writing from an early age,[12] but she would end up facing countless obstacles. She had little time and space to write while on the court of Henrietta Maria, and when she finally did have time to write, her prospects at securing an audience were minimal. A handful of women were taken seriously as intellectuals and writers in England between 1500 and 1600 – among them, Queen Elizabeth I, Lady Jane Grey, and Mary Sidney – but again the numbers were small, and after the accession of James I in 1603, the education of women was strongly discouraged as a matter of principle.[13] Cavendish knew very well that writing, especially philosophical writing, was regarded as the province of men. Another obstacle in the way of her work as a writer and intellectual was her lack of a formal education. She had tutors in her youth, and she learned from her scholarly brother John, but her education and the priorities set for her in childhood were clearly delimited. Like many women of her class and moment, her training focused on comportment over scholarship:

> As for tutors, although we had for all sorts of virtues, as singing, dancing, playing on music, reading, writing, working, and the like, yet we were not kept strictly thereto, they were rather for formality than benefit.[14]

Despite a lack of formal academic training, however, Cavendish still learned a tremendous amount about the philosophy and science that was under discussion in intellectual circles at the time. This is in part because she married William Cavendish.[15] He was well-connected among scholars, and – in a way that was unusual for a husband at the time – he encouraged and supported Margaret

in her own scholarly pursuits. As we will see, she had very negative views about marriage in general,[16] and had a lot to say about the stifling constraints that it places on the women who enter into it, but William appears for the most part to have been an exception. Cavendish no doubt encountered numerous constraints herself, but by her own reports she also had room to maneuver in ways that other married women did not.[17]

The most central factor in Cavendish's success as a writer was no doubt her creativity. A particular skill that she had developed over many years, and that she possessed in some capacity even when she was very young, was an ability to tune out unpleasant everyday happenings and retreat to worlds of imagination. She writes,

> I was from my childhood given to contemplation, being more taken or delighted with thoughts than in conversation with a society, insomuch as I would walk two or three hours, and never rest, in a musing, considering, contemplating manner, reasoning with myself of everything my senses did present.[18]

Cavendish enjoyed immersing herself in episodes of imagination, and indeed a kind of proactive escapism would eventually become a central component of her philosophical thinking. She will argue that, because the universe is a densely packed plenum, the individuals immersed in it often face constraints on the satisfaction of their goals and desires.[19] Rather than go to battle with surroundings that will not budge, our best recourse in many cases is to enter into imaginary worlds in which we have more authority over how things unfold.[20] Cavendish used her creativity and imagination to construct alternative realities that are more fluid, especially for women, and she used writing as a tool for crafting and then keeping a record of these. Some of her first books – *Poems and Fancies* (1653), *Philosophicall Fancies* (1653), *Worlds Olio* (1655), and *Natures Picture Drawn by Fancies Pencil to the Life* (1656) – captured and illustrated lengthy bouts of imagination, or fancies. Cavendish employed her creativity to craft philosophical arguments as well – including meta-arguments for the view that the best sort of argument, and the clearest sort of thinking, consist in vivid imagistic pictures.[21]

Cavendish was creative and fanciful, but she also took steps to make sure that her creative philosophical writing was well-grounded. She read the work of the philosophers and scientists that her own work would target: Hobbes' *Leviathan*, Descartes' *Principles of Philosophy* and *Discourse on the Method*, the philosophical work of Henry More and Walter Charleton, the scientific work of Jean-Baptiste Van Helmont and Joseph Glanvill, and other writings as well.[22] She also took advantage of numerous discussions with her brother-in-law, Charles Cavendish, an accomplished and well-known scholar.[23] She spent a significant amount of time in the presence of Charles when both lived in exile from England: William was often away at battle, or advocating on

behalf of the crown in some other fashion; Charles was more a scholar than a warrior or politician, where his brother was apparently all three.[24] Yet another element of Cavendish's education was her presence at conversations – in Paris, and later at Antwerp and Welbeck – that included such seventeenth-century luminaries as Thomas Hobbes, Marin Mersenne, Walter Charleton, and René Descartes.[25] Cavendish herself did not speak at these meetings of the "Cavendish Circle," in part because of her shyness, but presumably in part for reasons of decorum.[26] She was extremely attentive, however, and the meetings were no doubt the basis of extensive follow-up discussions that she enjoyed with Charles, William, and others.

Cavendish benefitted from the support of her husband – and his contacts and connections – but she would resist the view that any special favors were responsible for her success as an intellectual and writer. She had pillars of support, but as we will see, a central component of her philosophical system is the view that every individual depends for its properties and structural integrity on the plenum of beings that surround it and give it shape.[27] Cavendish will apply the view very generally – to plants that require sunlight, to seeds that require soil, to soil that requires rain, to minds that require information to possess ideas, and to individuals who are dependent upon the expectations and suppositions of the beings who surround them if they are to become (for example) philosophers, scientists, or writers. Cavendish had support in her efforts to become a philosopher (and writer), and that support was overtly noticeable in a context in which women did not become philosophers (or writers), but she will argue that one of the reasons that she had a more difficult time than Descartes, Hobbes, and others is that the plenum that they mutually inhabit is pervasively structured to support the success of men (and not women) in endeavors of the mind. Cavendish will not deny that she received the assistance of her husband and brother-in-law, for example, but she will insist that no individual is an island and that others are assisted as well, even if that assistance is familiar and for the most part goes unnoticed. Cavendish might appear to receive more support than others, and in a way that could work to minimize her achievements, but she will argue that unnoticed support is often extensive. A man would be unlikely to be a businessperson, doctor, politician, banker, navigator, judge, attorney, builder, soldier, priest, scrivener, mapmaker, artist, explorer, pirate, chemist, philosopher, scientist, etc., in a plenum in which no one would take seriously, or opt to employ, his services.[28] The delineations of the plenum were clearly laid out for Cavendish – and even more so for other women – in a way that influenced her individual prospects, and also her philosophical views on agency.

Cavendish in the canon

Cavendish began writing with an eye to publication in the early 1650s, though she would regard the decision about whether to publish as tortured.[29] She

wanted to write, but she also sought fame – and fame for her writing in particular. She did have a publishing connection,[30] but any prospective publisher would still be taking a chance: most of the works published by women at this time had the support of well-placed Puritan men, largely because of the Puritan themes that the works promoted and esteemed.[31] Cavendish's work was not of this sort at all. She worried about whether she would be published and about how she would live in the minds of others if she *was* published. As Cavendish will argue in the context of her social and political philosophy, whether or not an individual publishes is due in large part to the way that the individual is interfaced with the surrounding plenum. She proceeds cautiously, prefacing many of her philosophical monographs with language that is humble and fallibilistic. She makes sure to concede that, historically speaking, intellectual work has always been the province of men, and she asks her readers to forgive her lack of formal training and to allow her a hearing in the event that a new perspective might shed light on results that have been missed.[32] Cavendish had to be mindful of her audience, as did prospective publishers, to the extent that they were interfaced with the plenum as well.

Cavendish persevered in her desire to publish, and to write. Her situation also started to become more stable and accommodating: she lived at the (Peter Paul) Rubens House in Antwerp for much of the decade, in a community that celebrated the reputation and accomplishments of other female writers and intellectuals, such as Anna Maria Van Schurman and Anna Roemers Vissher.[33] Cavendish was indeed prolific in the 1650s: there appeared *World's Olio, Poems and Fancies, Philosophicall Fancies*, and *Natures Picture*, but also *Philosophical and Physical Opinions*. She had a similar stretch of productivity in the decade that followed, after her return to England (upon the restoration of Charles II in 1660). Within a year, William's estate at Welbeck was restored to him, and the couple also secured a stately home just north of London, in Clerkenwell. Margaret and William visited London regularly, having frequent guests at both houses, and they welcomed some return to normalcy. Cavendish never overcame her shyness, but she enjoyed spending time with small groups of individuals in the family's social circle, especially after she would finally become comfortable in their presence. What followed was a period of tremendous creative output. She published *Orations of Divers Sorts* in 1662, *Philosophical Letters* and *Sociable Letters* in 1664, *Observations Upon Experimental Philosophy* and *The Description of a New World, Called the Blazing World* in 1666, *The Life of the Thrice Noble, High and Puissant Prince William Cavendishe* in 1667, *Ground of Natural Philosophy* in 1668, and two collections of plays (in 1662 and 1668). Her poems and plays were well-received, and Cavendish was the first woman to write a critical appreciation of the work of William Shakespeare.[34] She was also known for being interesting and eccentric. She was well-known (or perhaps notorious) for her attire; it appears that dress was one of the few avenues through which seventeenth-century English women could be uninterruptedly creative, and she took advantage.[35]

Cavendish is by no means a fixture of the philosophical canon, and we might attempt to explore some of the different possible reasons in detail. One possible reason might have to do with the reputation that she developed – at least in some circles – for being quite odd, perhaps bordering on mad. For example, we find the following assessments from some of her contemporaries:

> I acknowledge, though I remember her some years since and have not been a stranger to her fame, I was surprised to find so much extravagancy and vanity in any person not confined within four walls.[36]
>
> [Her biography of William Cavendish was] a ridiculous history… which shows her to be a mad, conceited, ridiculous woman.[37]

Much later, in the early twentieth century, we find Virginia Woolf describing Cavendish as "hare-brained, fantastical," and "crack-brained and bird-witted."[38] Some have thought that Cavendish even acquired a corresponding nickname in her own lifetime: "Mad Madge."[39] She certainly was regarded as peculiar, and that might be a reason why her philosophical work has been overlooked. Perhaps no one who is that odd could produce philosophical work of any real quality, or, what is more likely – perhaps no one who is seen as that odd would receive a fair hearing, and their philosophical corpus would not be systematically read or interpreted.

Noteworthy, however, is that there were many positive judgments about Cavendish and her work in her own lifetime, and also in the years that followed. For example, in 1668 Walter Charleton reported to the Royal Society that Cavendish

> convinced the world, by her own heroic example, that no studies are too hard for her softer sex, and that ladies are capable of our admiration as well for their science as for their beauty.[40]

John Evelyn wrote similarly that

> Your Grace hath convinced the world, by a great instance, that women may be philosophers… [and that] there is no sex in the mind.[41]

In 1691, the literary critic Gerard Langbaine describes Cavendish very glowingly – as "a lady worthy the… esteem of all lovers of poetry and learning."[42] In 1872, in an introduction to an edition of Cavendish's biography of her husband, Mark Anthony Lower insists that

> no modern reader, on a candid perusal of her writings, will concur in attributing to her the nickname which her… contemporaries gave her – "Mad Madge of Newcastle".[43]

Katie Whitaker (in spite of the title of her biography) makes a compelling case for the view that "Mad Madge" in fact was not a regular nickname that was used to refer to Cavendish, either before or after her death.[44] In her own time, she had garnered the respect and admiration of a significant number of people. To cite just one more example, she was invited to be a guest at a meeting of the Royal Society in London in 1667 – a rare honor for any individual, woman or man.

Another possible reason why Cavendish is not a fixture in the philosophical canon is that some of her philosophical theses are unusual to say the least. We might consider some of these in turn: that thinking matter is ubiquitous throughout nature;[45] that the totality of nature is a single individual and that there are no rigid boundaries to demarcate the beings that compose it;[46] that the totality of nature has a more or less complete representation of all of its states;[47] that telescopes and other instruments tend to systematically distort our perception of reality, not enhance it;[48] and that bodies never receive motion from the bodies that interact with them, but instead move by their own internal motions.[49] I will argue in the chapters that follow that these views in fact are not so odd, but even if they were, that would not by itself explain the exclusion of Cavendish's work from the philosophical canon. We know all too well that there are a number of philosophers who are part of the canon, and indeed who are central fixtures of it, but who have put forward views that are odd. At the very least, the versions of these philosophers who have come down to us through history have put forward views that are odd. In some cases, even, the views would seem to border on incoherent. For example, Descartes argues in his First Meditation that because we are in the dark about who or what created our minds, we are also in the dark about whether or not our minds function well, and therefore any arguments or proofs that we put forward – no matter how intuitive and compelling – might be faulty.[50] But Descartes then proceeds to offer demonstrations of the existence of God in the Third and Fifth Meditations. He argues that since God exists and is perfect and benevolent, He would not have created us with defective minds, and so we *can* trust that our minds work well after all.[51] There is no doubt a problem of reasoning here, which we now know as the problem of the Cartesian Circle. Descartes seems to be arguing that we cannot know that our cognitive faculties are trustworthy until we know that God exists, but that we cannot know that God exists until we know that our cognitive faculties are trustworthy. We *assume* that our minds work well in order to demonstrate that God exists, and subsequently we trust our demonstration of His existence and non-deceiverhood. Afterwards, we conclude that our trust was indeed well-founded. Perhaps just as bad, we trusted in the reliability of our minds to generate the conclusion that our minds might be defective to begin with. Many commentators – myself included – take issue with the thought that there is a Cartesian Circle; there have been a number of very creative attempts to illustrate how Descartes only appears to be committing the blunder, and to show that he is doing

something very subtle and sophisticated instead.[52] What is striking, however, is that he is a perennial fixture of the canon even though the blunder of the Circle has long been at the core of his legacy. Perhaps the actual Descartes was too intelligent to have committed such a blunder, but the Descartes who has come down to us through history, and who is sometimes featured in the classroom, is not.

Other seventeenth-century philosophers advanced curious views as well. Malebranche subscribed to the doctrine of Vision in God – the doctrine that some of our ideas are literally in the mind of God, and that our minds are interfaced with the mind of God, in a way that explains how ideas of infinities could ever be thought by us.[53] We are connected to the mind of God in ways that allow us to think His ideas, but we are not thereby modes of God; instead, we are finite (and non-divine) creatures. Malebranche also held that God constantly re-creates each and every finite mind and body from moment to moment, but in a way that makes room for minds and bodies to be properly identifiable as substances, or things that are substantive.[54] Perhaps in the final analysis Malebranche did not embrace either of these views, and they are present in his text on a superficial reading only. Or perhaps he subscribes to both views, and they only appear to be odd: perhaps a more systematic understanding of the motivations that speak in their favor would incline us to conclude that the more common-sensical picture of reality that they oppose is unintelligible. Or perhaps reality is just odd in itself. Whatever our analysis, however, Malebranche has made it into the canon even though he has views that are perplexing, to say the least. His views might be correct in the end – where we perhaps uncover this through a systematic understanding of his corpus of arguments. But in that case, his extremely peculiar positions were not sufficient to rule him out straightaway.

A final seventeenth-century figure that we might consider is Leibniz. He defends a number of interesting and important views, one of which is that every finite substance is the cause of all of its own states.[55] This is a view that forces us to give up our common-sense belief that substances interact with each other – for example, that our perception of a table (or chair) is in fact caused by a table (or chair), and that our conversations with other human beings are a matter of being physically present with them and hearing what they have to say. Leibniz has brilliant reasons for thinking that we need to re-examine this common-sense belief, and perhaps in the end he is correct with respect to his position on interaction, and also with respect to the positions that systematically undergird it. Arguably, the view that every finite substance is the cause of its own states is not a far cry from Cavendish's view that bodies always move by motions that are internal to them (and not by motions that are transmitted from surrounding bodies). Both views are odd, but Cavendish will argue that if we grant her the assumption that material bodies exist and move, and also the assumption that motion can never exist in isolation from a body, the conclusion that bodies always move by motions that are internal to

them can start to appear very intuitive. Leibniz will not concede these two assumptions, of course; he will argue that all creatures are either immaterial minds or composites of immaterial minds.[56] The doctrine that the fundamental elements of reality are immaterial minds is odd as well, but of course Leibniz provides systematic arguments to show that things are not exactly as they seem.

Cavendish herself offers positions that are odd, at least on the surface, but these positions are no more odd than some of the positions offered by Descartes, Malebranche, Leibniz, and other great philosophers of history. We might consider as a final case that of St. Anselm. There might be an extremely charitable rendition of his ontological argument, or perhaps we have been anachronistic and have missed what he was trying to do, but the philosopher who has made it into the canon argued that since God is an entity nothing greater than which can be thought, He exists not just in idea, but in reality. Historically the philosophers of the canon have put forward views that are highly problematic – at least as those philosophers have been filtered down to us – and the problems with Cavendish's views and arguments are certainly no worse. I will attempt to argue that as with the other great historical philosophers, many of her positions are quite compelling once they are situated within their own systematic context – and that (to an unusual extent in the case of Cavendish) they are compelling for "external" reasons as well. She recognizes that there are competing hypotheses that might seem to be more likely in isolation, but she supposes that upon reflection, and against the background of more intuitive philosophical axioms, these competing hypotheses implode.[57]

Another possible reason that Cavendish's philosophical work has been underappreciated might be that, in some texts, she presents a wide variety of opinions on the same topic. If so, she is not always committed to taking a principled or systematic stand on things, or to getting at the final truth about how things are. Perhaps just as bad, she thereby makes it difficult for us to tell when she is actually defending a view, or seriously putting forward reasons to support it. In some texts, for example in *Sociable Letters* and *Orations of Divers Sorts*, she puts forward a wide spectrum of views on a range of philosophical (and other) issues. The reasons in favor of each come across as quite sincere, at least for the most part, and each view can seem very compelling in isolation. However, no human being could possibly subscribe to all the views in question, on pain of inconsistency. In other texts, Cavendish will reflect the pros and cons of a position via a different operation: she expresses that the major part of her mind is inclined toward one view, that the minor part of her mind is inclined toward a different view, and that she will side with the view that appears to have the most going for it.[58] In these and other passages, Cavendish might not seem to be taking seriously the project of philosophical investigation. To be sure, philosophy should not be a matter of guesswork; it should not have us siding with a result just because we feel more inclined to it than not, and where possible it should lead to necessary truths. Noteworthy, however, is

that Cavendish for the most part agrees. It is true that in some texts she explores the different reasons that speak in favor of the diversity of views that people might have, or that dot the logical landscape. She does this in *Sociable Letters* and *Orations of Divers Sorts*, and even in *Ground of Natural Philosophy*, and she will do it in her fiction, as might be expected. In a way, she is getting at how things are in these instances; she is pointing out how minds can form very different beliefs in the light of the different reasons that they take into account. She is also highlighting how a belief can seem very compelling in the absence of complete information, and how sometimes the issues are just difficult and hard. When she speaks of the opposing deliverances of the major and minor parts of her mind, for example, Cavendish might just be unsure herself what the right thing is to say. But none of this is to suggest that she supposes that we are never in a position to arrive at truth. In her philosophical monographs, she articulates positions that are unambiguous and quite cohesive. As I will argue, her philosophical thinking turns out to be very systematic. In *Philosophical Letters, Philosophical and Physical Opinions, Ground of Natural Philosophy*, and *Observations Upon Experimental Philosophy*, for example, she puts forward axioms that she takes to be foundational and self-evident, and she generates from these a comprehensive picture of reality. She is fallibilistic with respect to the philosophical theses that she defends, but her fallibilism is principled. She arrives at results that (she thinks) are obvious to any thoughtful cognizer, and that give us the best hope for answers to the perennial questions of philosophy. She merely allows that the results that are most compelling to a human mind might be just that and nothing more.

The philosophical theses

Cavendish is fallibilistic about the philosophical results at which she arrives, but she presses ahead nonetheless. She supposes that there is a lot at stake in coming up with the best picture of reality that is available to us, even if we should be humble with respect to our own capacities. She defends a number of interconnected philosophical theses. One is that minds and their ideas are wholly material and that the material bodies that think in a human brain are not different in kind from the bodies that fill in the larger natural world.[59] She concludes (on the basis of additional reasons) that the latter bodies are intelligent as well and that thinking matter is ubiquitous. Here Cavendish is taking issue with Descartes, among others, and she is also taking issue with the Cartesian view on the phenomenology of thinking. When Cavendish concludes that material bodies are cognitive and intelligent across the board, she is not thereby concluding that material bodies are always highly conscious and deliberative. That is to say, she does not suppose that thinking is always of the highly reflective variety that Descartes seemed to suppose is predominant in human beings, but instead that thinking and intelligence are often unconscious. Much of intelligent *human* behavior is unconscious, or at least non-conscious,

Cavendish argues – for example, the skillful behavior in which we engage when we are walking, or talking, or singing, or dancing; the resolution (of a problem) that presents itself to us after a good night's sleep; and the underlying processes that take place behind the scenes and make conscious intelligent thoughts come to us exactly at the moment that we need them.[60] According to Cavendish, much of human intelligence takes places below the threshold of conscious awareness, and much of our conscious thinking has as a necessary precondition that unconscious thinking is taking place in the background as well. She then supposes that much of the thinking that takes place in the non-human domain is unconscious. Bodies communicate with each other in a way that makes possible their mutual order and organization, she argues, but their cognitive activity is of the non-Cartesian sort that philosophers have overlooked in the case of human beings. Descartes overlooked it, perhaps because he was keen to focus his attention on that which is immediately available to introspection.

Cavendish supposes that thinking matter is ubiquitous, in part from the assumption that the order and sophistication that is exhibited in nature requires an intelligent and sophisticated cause. But she does not conclude that that cause is an immaterial mind. She is not obliged to draw the conclusion that an uncaused immaterial mind – for example, God – is the cause of the order and organization that is exhibited in the universe, if matter itself can be intelligent and if immaterial beings do not have a monopoly on the (either way puzzling) phenomenon of uncaused existence. That is, matter might be eternal as well. And Cavendish argues that it is – she points out that (among other reasons) if something cannot come from nothing, any matter that exists right now has to have existed in some form at all times, otherwise something would have come from nothing, but that is impossible.[61] Or at the very least, it *seems* to be impossible, as far as we can tell from the axioms and results that are maximally perspicuous to a human mind upon reflection. Cavendish will be fallibilistic here as well, but just barely; she will not devote much time at all to the hyperbolic (and extremely impractical) worry that we might be mistaken about matters that are utterly evident to us. Instead, she carries on. In the case in question, she defends the view that nature has the resources to bring about its own order and organization, and she connects this view systematically with another view that she defends: that material minds are unable to think or speak of immaterials.[62] We should not say that God is the cause of the order that is exhibited in nature, Cavendish argues, and we should not speak of God at all.[63] She will offer independent and freestanding reasons for the view that we cannot speak of immaterials, and she will offer independent reasons for her other views as well. But she will systematically interlink these in a way that highlights how they reinforce each other. They will have independent support, but they will hang together in a way that buttresses them further still.

Like Descartes and other philosophers, Cavendish will offer metaphysical axioms that are self-evident and obvious upon reflection, but she will also concede that for all we know these axioms might be false. She does not

abandon the project of philosophy because of her fallibilism and skepticism; she instead proposes that we locate those axioms that seem most intuitive and compelling, and then do the best we can to arrive at a comprehensive and fruitful representation of reality. Another view that she secures from intuitive metaphysical axioms is that there is no empty space and that the universe is a plenum.[64] Here Cavendish is taking sides with Descartes, among others, and of course with Spinoza. We do not perceive the bodies that inhabit "empty space," she recognizes, but our sensory perceptions of reality tend to be radically incomplete, and need to be filled in.[65] Or so she argues in developing her epistemology and theory of mind. Her plenum metaphysic also informs her view of how best to respond to calamity and struggle. She will not argue that the best response to hardship is a matter of taking on the plenum that surrounds us and attempting to make it do things that the facts on the ground will not permit. Cavendish not only subscribes to a plenum metaphysic, but in addition she has a strict understanding of causality according to which there is a necessary connection between a cause and its effect.[66] That is to say, if there is a given set of causes at a given moment – and the individuals of the plenum constitute a given set of causes – only one outcome is possible. She admits that a being will often be frustrated when things do not go as it wishes, but her recommendation in such cases is that we develop a stoic attitude and recognize that the things that we take to be possible often are not.[67] Instead of resisting an unalterable plenum, we go with the grain: we uncover aspects of our situation that we did not notice but that are more endearing; or, if our environment is too disagreeable, we retreat to imaginary worlds of our own making. Cavendish knew from her own experience that her desire to be a writer and philosopher was subject to frustration, and the plenum was not going to change anytime soon. She arrives at her stoicism from personal experience, but also from intuitive philosophical axioms. In effect, she supposes that an individual is most wise to respond to how things are, and not to how they are not. She also supposes that we can find ways to be just as fulfilled by corporeal understanding and by corporeal imaginings, as by real life.[68]

Cavendish's stoicism is informed by her view of the plenum and by her understanding of causality, and her views on freedom and possibility are informed by these as well. She supposes that bodies in nature tend to be free,[69] but there is no such thing as a libertarian ability to do otherwise, she argues; freedom is instead a matter of having aims and goals and having the where-withal to achieve them without interference.[70] Her understanding of freedom is thus wholly compatibilist.[71] Accordingly, she will be very cautious in her use of normative language, and any language by which she recommends that human beings take up certain behaviors.[72] When she does speak for or against certain courses of action – for example, when she speaks so positively of the practice of retreating to worlds of imagination, or when she rails against the way in which the actual-world plenum limits the possibilities of women – she is making descriptive claims about which courses of action do or do not yield

pleasure and satisfaction for a given subset of creatures in the plenum. Cavendish will also be influenced here by her reductive understanding of the notions of goodness and badness. She will argue that there is an important sense in which these notions do not apply to anything that occurs in the plenum, but that creatures simply use them in ways that tag their preferences and concerns.[73]

Her understanding of possibility will be reductive as well. She grants that we are speaking of something when we speak of possibilities – she also uses the language of possible "worlds" – but what we are talking about in such cases are fictional ideas in our own thought. On a day-to-day basis, we suppose that all sorts of things are possible, but that is just because we have extremely incomplete representations of our external (and internal) environments. These representations are fictional in a very literal sense, because they do not represent what is actually out there, and if we emended our ideas of what is possible to include all of the information about the facts on the ground, we would realize that most of what we ordinarily take to be possible in fact is not.[74] In some cases we might be genuinely mistaken about what is possible, but in other cases we might entertain a possibility with full knowledge that it is a being of our own creation. In her literary work, Cavendish crafts alternative worlds as a kind of escape from the doldrums of the real-world plenum, and she also crafts them to highlight the extent to which individuals in the actual world depend for their properties on the beings that surround them: the "same" individual can be transported into an alternative plenum, and if that plenum is differently structured, and is more supportive of the individual's goals and aims, the individual will have more agency and authority to do as it pleases, and will have very different features. In the alternative plenum, the individual might be a writer, philosopher, scientist, banker, barrister, or military general, when in the actual world it can only be these in thought. Cavendish applies the view to all individuals in the plenum, and applies it *because* they are in a plenum: a seed can only grow into a tree if its surroundings are right, and if its surroundings were sufficiently different, it would hardly be a seed at all.

Cavendish's metaphysics is systematic in other ways as well. In the context of her view that there is no empty space, the issue arises about how she can expect to make sense of the individuation of bodies (and also corporeal minds and their ideas). If bodies exist in a densely packed plenum, it is difficult to see how they could have meaningful boundaries: the putative border that delineates two individuals could just as easily be said to be a feature of the larger heap that is comprised by those individuals. Cavendish will argue in fact that there is an important sense in which the entire universe is just a single individual. There are individuals *within* the plenum, but these are of short-term duration, and they are individuated as a function of the regular proportion of motion that is maintained by the bodies that enter into them.[75] Cavendish will argue that such individuals are always short-lived and temporary, even if miniature versions of them (in the form of ideas) live on in memory and in fame. The

universe of matter itself, however, is eternal. It is also infinite, she argues, but only in the sense that it constitutes all of reality and is not further bound or limited. Since something cannot come from nothing, there can be no more matter at any one moment than at any other, and hence the densely packed plenum never contracts or expands. There is no empty space beyond the material universe, and no matter; there is simply no grid.[76] Cavendish does not offer an account of how the more basic bodies of the universe are individuated – the bodies that enter into composites. She just supposes that they are there, as a brute fact that does not admit of any further explanation. She thinks in fact that there is much that is brute – a reflection of how things just are – and also much that human minds simply cannot explain or understand. But she argues that that should not surprise us: there is no guarantee that our faculties are up to the task of understanding why things are as they are or why they have the basic properties that they do, or why they exist at all, and there is no reason to believe that the workings of reality would coincide with an account that is fully intelligible to us. Cavendish is certainly not anticipating Spinoza on this count – who appeared to subscribe to a version of the principle of sufficient reason – though she is clearly anticipating his thought in other instances.[77] In addition, she anticipates Glanvill, Malebranche, and Hume in her view on the limits of causal explanation: she argues that the best that we can do when we are attempting to explain a given phenomenon is to locate the antecedent causes that give rise to the phenomenon and point out that there is a brute-fact relation by which the cause is always followed by its effect.[78] We never understand *why* a given cause or a given set of causes leads to a given effect, she argues; we just notice that it happens. We might *say* that we understand why a cause leads to its effect – for example, if their conjunction has become familiar – but that does not mean that we understand why there is the conjunction to begin with. There are serious limits to human cognition, Cavendish argues, but we can still meet most of our needs, so long as we appreciate the (material and animal) beings that we are at root. Where we do not understand, Cavendish will argue, we would be wise to develop an attitude of wonder.[79]

Cavendish was an unusual person for her time. She seemed to be aware of the tendency to slip into a mold, and she resisted it. She writes,

> I did dislike any should follow my fashions, for I always took delight in a singularity.[80]
>
> I endeavor… to be as singular as I can; for it argues but a mean nature to imitate others… I had rather appear worse in singularity, than better in the mode.[81]

She wore overtly masculine clothes, for example, as a way of complicating the norm that only men are suited for writing.[82] If writing is a strictly masculine endeavor, Cavendish seemed to be thinking, she would highlight that she is

masculine herself, but she would do it in a way that detached masculinity from its sexed embodiment. This was almost certainly a kind of performance art on her behalf, beaming a light on a phenomenon that was somehow glaring and explicit while at the same time unseen. Cavendish was also unconventional with respect to her views on animals. She was not quite a vegetarian, but she railed against animal cruelty, and if we are to trust the sentiments in her writing, she ate only a small amount of meat, and from animals that were treated with dignity.[83] She argues that human beings are animals, but she does not conclude that we are thereby lower on the hierarchy of being. Animals have been underappreciated, she supposes, and we should feel proud to be among them.

To the extent that Cavendish is known, she has been regarded as fairly eccentric, but presumably that is not the reason why her philosophical corpus has not been taken seriously. Another guess as to the reason that her philosophical corpus has not been taken seriously is simply that it has not been picked up and read and interpreted. But this is not because some of the positions that she defends are bizarre or unusual: the great philosophers of the canon reflect a number of very strange positions – and indeed, as Cicero famously remarks, there is no position so absurd that some philosopher has not defended it.[84] An important difference between Cavendish and the great canonical philosophers, however, is that historically speaking we have been able to read through the corpus of each of the latter, and come up with charitable and systematic interpretations of what they are setting out to do. The philosophical work of Cavendish was not picked up and read by the philosophers who came after her; it has not been part of the discussion, and it has been largely unavailable. Only now is it starting to appear once again.[85]

There are problems lurking within the Cavendish system, but a hope is that, as in the case of other philosophers, we can read the entirety of her work, sort out what is compelling from what is not, and in cases where we disagree, use her most thoughtful insights to build toward conclusions that are more likely. In some instances we might recognize that a view that she puts forward is wrongheaded. In other instances, we might recognize that she is right straightaway. Or, we might appreciate the manner in which she surrounds an opponent's view in the course of blowing it to pieces. As one of my students put it after working through the corpus, "Cavendish is an absolute beast." Given her eccentricities, Cavendish would certainly appreciate the sentiment. She sought desperately to be remembered – to live on in the minds of others, to continue her existence in the form of an idea that (like all else) is composed of active and animate matter. She would appreciate the sentiment, and perhaps even the language. She would be insulted if the language (of beastliness) were meant to connote a lowly kind of existence, and indeed she will recognize that that language tends to have extremely negative connotations. But Cavendish herself thinks that, if we paid attention, we would notice that animals are extraordinary. She would argue that we should reassess our concept of beastliness, or else conclude that nothing in fact answers to it – not even the animals to

which the concept has been thought to primarily apply. She will say the same about the concept of matter. Everything is material, she argues, but that does not mean (as per the historical tradition) that everything is lowly and unimpressive. The things to which we apply the concept of matter are wondrous and magical, she thinks, and should be regarded accordingly.

Notes

1 As we will see, Cavendish and her family were aligned with the throne in numerous ways.
2 Margaret Cavendish, *A True Relation of My Birth, Breeding and Life*, 161.
3 Ibid., 168.
4 Ibid., 169. See also Whitaker (2003), 293.
5 See also Jones (1988), 23; and Whitaker (2003), 45.
6 See also Whitaker (2003), 23–25; and Jones (1988), 53, 62–63.
7 See also Jones (1988), 26. As we will see, one of the themes in Cavendish's social and political philosophy is that an individual's authority and efficacy is due in large part to the configuration of the social nexus of which they are a part.
8 There is an extremely helpful discussion of this history in Whitaker (2003), chapter three ("The Coming of War, 1642"), 34–46.
9 See also Whitaker (2003), 60. Her conflict with Parliament traced in part to the Lucas family's connection to the crown, but the conflict was fueled further by her marriage to William Cavendish in 1645. He was a staunch supporter of the crown himself, and he fought against the parliamentarians for the duration of the English Civil War. Margaret lived in stress for his safety and also for her own well-being and reputation. See Jones (1988), 27, 45; and Whitaker (2003), 33–35.
10 See also Whitaker (2003), 29, 163, 199–201. Cavendish also spent a good amount of her time in exile struggling to manage her family finances – on a day-to-day level, and also with an eye to the family's eventual return to England. See also Jones (1988), 70, 76, 80–81.
11 See for example *Ground of Natural Philosophy*, 75–77.
12 Whitaker (2003), 53.
13 See also Jones (1988), 11.
14 *A True Relation*, 157. Regarding the help that she received from her scholarly brother, John, see p. 175 and p. 159, and also Whitaker (2003), 11–12.
15 They married in Paris, in 1645.
16 But see for example *The Worlds Olio*, 78.
17 *A True Relation*, 162–163.
18 Ibid., 174. See also Whitaker (2003), 175.
19 For Cavendish's view that the universe is a plenum, see for example *Philosophical Letters*, 67. Note that numerous additional texts pertaining to this view (and to the other views of Cavendish that are discussed here in the introduction) are presented in detail in chapters one through eight. The discussion of Cavendish on the plenum appears primarily in chapter four.
20 See for example *WO*, 100–101.
21 As opposed to the abstract and non-sensory ideas of the Cartesian and Platonic tradition. For more on the latter, see Hatfield (1986), 45–80. The discussion of Cavendish's view on imagistic thinking appears in chapters one and three below.
22 See also Whitaker (2003), 262–264.
23 See *A True Relation*, 166; Jones (1988), 94; and Whitaker (2003), 116–118, 184–191.

24 William would also be away from Margaret as he worked to secure money for the family while the status of his land and other possessions in England was up in the air.
25 See also Jones (1988), 118; and Whitaker (2003), 67–68, 95–96.
26 Indeed she remarks that she spoke fewer than twenty words to Hobbes in her entire life. See "An Epilogue to My Philosophical Opinions," in *Philosophical and Physical Opinions*, unnumbered. See also Whitaker (2003), 190.
27 See for example *Observations Upon Experimental Philosophy*, 40–41.
28 See for example "To the Two Universities," *PPO*, unnumbered; and "Introduction," in *Playes Written by the Thrice Noble, Illustrious and Excellent Princess, the Lady Marchioness of Newcastle*, 2.
29 See also Whitaker (2003), 154–157.
30 Her publishing connection was with J. Martin and J. Allestrye in London.
31 Whitaker (2003), 155.
32 See for example *Natures Picture*, "The Preface," unnumbered.
33 Whitaker (2003), 121. It also appears that Cavendish was inspired in Antwerp by visible paintings of great women in history, for example Joan of Arc, Anne of Austria, and Marie de' Medici. See Whitaker (2003), 93.
34 This is in Letter CXXIII and Letter CLXII of *Sociable Letters*. See *SL*, 244–248 and 338–339. Note also that Cavendish was the first to pen the expression, "I had rather grasp a Fury of Hell, than an angry Woman!" (*NP*, 162). The expression "Hell hath no fury like a woman scorned" is attributed to William Congreve, although his original language was not verbatim either. Congreve started producing literary works at the very end of the seventeenth century.
35 See also Whitaker (2003), 24.
36 Mary Evelyn, in Evelyn (1881), 32. This is quoted in Whitaker (2003), 296. Mary and John Evelyn were part of the Cavendish social circle.
37 Pepys (1995), 123. This is quoted in Whitaker (2003), 314.
38 These are from Woolf (1945a), 51; and Woolf (1945b), 86. Both of the passages are quoted in Whitaker (2003), 364.
39 For some of the evidence, see the discussion in Whitaker (2003), 354–367.
40 As quoted in Whitaker (2003), 315.
41 As quoted in Whitaker (2003), 315. These quotes are no doubt problematic, but they do reveal a kind of compliment, however situated they are in their time.
42 Langbaine (1691), 390–391. This is quoted in Whitaker (2003), 356.
43 Lower (1872), ix. This is quoted in Whitaker (2003), 361–362.
44 Whitaker (2003), 354–367.
45 See for example, *PL*, 514.
46 See for example *OEP*, 4.
47 This view is discussed in chapter five; it is pieced together from a number of less sweeping positions that Cavendish advances.
48 See for example *OEP,* 8–10.
49 See for example *PL*, 82, 447–448.
50 René Descartes, The First Meditation, CSM2: 14–15.
51 The Third Meditation, CSM2: 28–36; The Fifth Meditation, CSM2: 45–49.
52 There are many of these, but see for example Doney (1955); Gewirth (1970); Frankfurt (1977); Loeb (1992); Sosa (1997); and Newman and Nelson (1999).
53 See Malebranche, *Elucidations of The Search After Truth*, Elucidation X, 612–632.
54 Malebranche, *Dialogues on Metaphysics and on Religion*, Dialogue VII, 104–126.
55 See for example Leibniz, *Monadology*, sections fifteen through twenty-two, 644–645.
56 *Monadology*, sections one through three, 643.

57 I will sometimes use the language of "philosophical axioms," "metaphysical axioms," and "principles of reason" – to refer to the principles that Cavendish employs to secure answers to perennial questions of philosophy, for example about the relation between mind and body, among many others. Cavendish says that such principles are known by reason. (See for example *PL*, 445; *PL*, 280; *PL*, 521; 526; and *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 18, 23.) In addition, I will use the term "metaphysics" very generally to refer to the subject matter that covers such questions. Cavendish will appeal to general principles to yield results that take us beyond the deliverances of our senses, and she will identify these as known by reason. However, the distinction between principles of reason and other principles will be difficult to draw very precisely in her system, just because she does not draw a very strict division between the senses and reason.

58 There are a number of instances throughout the corpus, but see for example *GNP*, 267–311.

59 See for example *PL*, 185–186, 108.

60 See for example *WO*, "Epistle," unnumbered page between p. 26 and p. 27.

61 See for example *PL*, 53.

62 See for example *GNP*, 1–2.

63 See for example *PL*, 322–323.

64 Note that early in *Poems and Fancies* Cavendish flirts with a version of the Epicurean view that there exist atoms and empty space. (See *Poems and Fancies*, 5–25.) However, she abandons this view almost immediately – indeed, in the very same year, in *Philosophicall Fancies* – and then for the rest of her intellectual life she embraces the view that the universe is a densely packed plenum of (mostly) intelligent bodies. We perceive "empty space," but our sensory faculties provide just an incomplete picture of reality.

65 This view is discussed in chapter five; it is pieced together from a number of less sweeping positions that Cavendish advances.

66 See for example *GNP*, 16, and *NP*, 550. Note that Cavendish will not use the exact expression "necessary connection" in describing her view on the relationship between a cause and its effect, but the language that she does use reveals that that is what she has in mind.

67 See for example *WO*, 140–141, and *Poems and Fancies*, 74.

68 This view is discussed in chapter seven; it is pieced together from a number of less sweeping positions that Cavendish advances.

69 See for example *OEP*, 108.

70 See for example *NP*, 590, and *OEP*, "Further Observations Upon Experimental Philosophy," 85.

71 This is a very controversial interpretive claim; it will be defended below.

72 Cavendish does not suppose that we possess a libertarian sort of freedom that allows us to make choices that are not dictated by the states of our brain and surrounding bodies. But she would also insist that libertarian freedom does not give us any special control over our choices either, or so I will argue.

73 See for example *Philosophicall Fancies*, 5. The larger discussion of these issues will be in chapter six.

74 There are traces in Cavendish of the view that our representations in fact are complete, but that we simply do not notice all of their contents. In the end she does not subscribe to this (Spinozistic) view, however. See chapter five for the more extended discussion.

75 See for example *PL*, 184.

76 This view is discussed in chapter four; it is pieced together from a number of less sweeping positions that Cavendish advances.

77 In some cases Cavendish generates aspects of her philosophical system by accepting central Cartesian tenets and following them through to conclusions that Descartes himself appeared to be too uncomfortable to accept. Spinoza seemed to have done this as well, and some of the overlap between Cavendish and Spinoza might be explained by that commonality.
78 See for example *PPO*, 67–68.
79 See for example *PL*, 299.
80 *A True Relation*, 175.
81 This quote is actually from *Blazing World*, but is almost certainly in the voice of Cavendish, given the similarity between the views of the character in question and the views of Cavendish herself. See *A Description of a New World, Called the Blazing-World*, 149–150. See also Whitaker (2003), 297.
82 See also Whitaker (2003), 300–301.
83 She says for example, "As if that *God* made *Creatures* for *Mans meat,* / To give them *Life,* and *Sense,* for *Man* to eat; / Or else for *Sport,* or *Recreations* sake, / Destroy those *Lifes* that *God* saw good to make: / Making their *Stomacks, Graves,* which full they fill / With *Murther'd Bodies,* that in sport they kill. / Yet *Man* doth think himselfe so gentle, mild, / When *he* of *Creatures* is most cruell wild. / And is so *Proud,* thinks onely he shall live, / That *God* a *God*-like *Nature* did him give. / And that all *Creatures* for his sake alone, / Was made for him, to *Tyramize* upon." See "The *Hunting* of the *Hare*," in *Poems and Fancies*, 112–113. See also *A True Relation*, 173; *GNP*, 273–275; "Of Poverty," in *Poems and Fancies*, 95–96; and also Whitaker (2003), 145.
84 Cicero, *De Divitatione*, Book II, section 58. See also the similar comment in Descartes, *Discourse on the Method*, CSM1: 118.
85 At online university sites, and in edited collections. See for example O'Neill (2001a) and James (2003a).

1

IMAGISTIC IDEAS, FALLIBILISM, AND THE LIMITS OF COGNITION

Cavendish defends an epistemology according to which human cognition is limited and fallible, but functions extremely well for everyday practical purposes. Our ideas are imagistic and imprecise, she argues, and they only capture so much. Our best explanations are not particularly explanatory, though they are quite satisfactory for helping us to navigate the world that surrounds us. Cavendish allows that human minds are within reach of axioms that lead to compelling answers to some of the perennial questions of philosophy – for example about the relation between mind and body, free will, individuation, the nature and existence of God, and whether or not the universe is eternal, among others – but she will be fallibilistic about these as well. We might be mistaken about the axioms that deliver such answers, and indeed Cavendish argues that for all we know we are mistaken about matters that are most evident to us. She also supposes, however, that there is a lot at stake in attempting to figure out the deepest nature of things, and she recommends that we do the best that we can with the faculties that we have at our disposal.

Imagistic ideas

One of the central tenets of Cavendish's epistemology is that ideas are images that represent their objects by picturing them. She writes,

> I take an Idea to be the picture of some object…[1]
>
> my opinion is, that figures are as inherent to the minde, as thoughts; And who can have an unfigurative thought, for the minde cannot have thoughts, but upon some matter, and there is no matter but must have some figure, for who can think of nothing…[2]

Cavendish supposes that ideas are pictorial images that have figure and dimension: they are more or less miniature versions of the objects that they resemble and depict.[3] The view appears to be stipulative, at least in part: Cavendish is just declaring that what we are talking about when we talk

about an idea is an imagistic picture. But she is also offering an argument: if we attended to our thought and did not encounter a figure of any kind, we would be thinking of "nothing." Alternately, we might begin an episode of thought by entertaining an idea, and then gradually remove the pictorial content from before our mind; Cavendish is supposing that if we did that to the point of removing all pictorial content, we would be entertaining no idea at all. An idea is an imagistic figure, and presumably a figure with enough content that we are able to read off from it the idea's referent.

Cavendish holds that ideas are imagistic pictures and then accepts as a corollary that ideas are only as precise and exacting as a physical image is able to be. In the same way that there are no perfectly straight lines in (for example) the triangular figures that we encounter in nature, the borders and delineations in our mental life are not precise either. She writes,

> this is to be observed, That all rational perceptions or cogitations, are not so perspicuous and clear as if they were Mathematical Demonstrations, but there is some obscurity, more or less in them, at least they are not so well perceivable without comparing several figures together, which proves, they are not made by an individable, immaterial Spirit, but by dividable corporeal parts…[4]

Here Cavendish calls to mind the passage in which David Hume speaks of the precision of our geometrical ideas and asks us to consider whether we really have ideas of things like perfectly straight lines, perfect equality, and perfect circles. He writes,

> When geometry decides any thing concerning the proportions of quantity, we ought not to look for the utmost precision and exactness. None of its proofs extends so far. It takes the dimensions and proportions justly; but roughly, and with some liberty. Its errors are never considerable; nor wou'd it err at all, did it not aspire to such an absolute perfection.[5]

We might introspect and conclude that we do not have ideas of perfect entities, and that our clearest cogitations fall short of what the Platonic tradition would identify as part and parcel of a mathematical demonstration. Cavendish is proceeding along these lines, as is Hume in the passage above. Or, we might make the more reductive claim that we *do* have ideas of perfections, but that the label "perfect" operates differently than we might have expected:

> As the ultimate standard of these figures is deriv'd from nothing but the senses and imagination, 'tis absurd to talk of any perfection beyond what these faculties can judge of; since the true perfection of any thing consists in its conformity to its standard.[6]

Hume is suggesting in this second passage that since we *do* talk of "perfection," and employ a standard of perfection, the idea that we have in mind must be of the imagistic sort of which human cognition is capable. Cavendish would presumably be happy to say the same. What she says explicitly is that our cogitations do not reach the level of clarity of a mathematical demonstration – at least as it would be described by Plato or Descartes.[7] We do perform mathematical demonstrations, however, and some of our cogitations reach the level of clarity of *these*. Cavendish is committed to the view that our very best mathematical reasoning is a matter of reasoning through imagistic figures. If she allows that we use terms like "exact" and "precise" as descriptors of features that we actually encounter, she would say with Hume that such terms merit a reductive treatment and that some of our cogitations are precise indeed.

Cavendish takes all ideas to be imagistic pictures that have a specific figure and dimension, but she has to allow that some ideas at the very least *seem* to be abstract and indeterminate. She proposes an analysis of such ideas that is in line with her larger view. If we allege to have located an example of an idea that does not have a specific figure, she insists that the idea requires a closer look. Just as a painting can depict a fog or haze, or capture a scene that is foggy or hazy, ideas can exhibit a wide spectrum of imagistic content:

> Tis true, the minde may be in a maze, and so have no fixt thought of any particular thing; yet that amaze hath a figurative ground, although not subscribed; as for example, my eyes may see the sea, or air, yet not the compasse, and so the earth, or heavens; so likewise my eye may see a long pole, yet not the two ends, these are but the parts of these figures, but I see not the circumference to the uttermost extention, so the mind in amaze, or the amaze of thinking cuts not out a whole and distinct figurative thought, but doth as it were spread upon a flat, without a circumference…[8]

We may not notice all of the determinate details of an imagistic picture, but Cavendish is supposing that they are present even if they are difficult to make out. Every idea has a "figurative ground," and a figure and boundary whose "uttermost extention" we might not fully register. There are therefore no ideas that are abstract or general in the sense of being indeterminate images. If we do have ideas that represent objects above and beyond the entities that the ideas immediately depict, Cavendish would have to argue along the lines of Locke, Berkeley, and Hume that an idea is never general in its content, but only in its use and application.[9] If there is no determinate figure that we are entertaining, Cavendish contends that we are not thinking anything at all.

She accordingly disagrees with Descartes and many of her other contemporaries on the question of which ideas are the most perspicuous. For Descartes, the clearest sort of idea is the non-imagistic idea that has no sensory content whatsoever.[10] In his famous Second Meditation wax analogy, he

argues that our clearest and also most accurate idea of body is not an imagistic picture: an image cannot capture the multitude of sizes and shapes into which a body can be manipulated, and so an accurate idea of body must be something else. He writes,

> But what is meant here by "flexible" and "changeable"? Is it what I picture in my imagination: that this piece of wax is capable of changing from a round shape to a square shape, or from a square shape to a triangular shape? Not at all; for I can grasp that the wax is capable of countless changes of this kind, yet I am unable to run through this immeasurable number of changes in my imagination… I would not be making a correct judgement about the nature of wax unless I believed it capable of being extended in many more different ways than I will ever encompass in my imagination. I must therefore admit that the nature of this piece of wax is in no way revealed by my imagination, but is perceived by the mind alone.[11]

Descartes holds that there are instances in which we are entertaining an idea, but have no image before our mind. For example, we might think alternately of God, finite mind, and then the extension of a body; we have very different ideas in the three cases, Descartes thinks, even though the imagistic content (none) is the same across the board.[12] We might have *started* our thought process by entertaining an image: Descartes himself arrives at a clear idea of mind by way of subtracting the imagistic and sensory components of his pre-reflective idea of self, and he arrives at a clear idea of body by subtracting the sensory elements of his pre-reflective idea of a piece of wax.[13] Cavendish sides with Descartes' opponent Gassendi, however, that the more that we strip our ideas of sensory content, the less we are thinking anything at all. In the fifth set of objections to Descartes' *Meditations*, Gassendi writes,

> Note, moreover, that the loss of distinctness and the onset of confusedness is gradual. You will perceive – imagine or understand – a quadrilateral more confusedly than a triangle but more distinctly than a pentagon; and you will perceive the pentagon more confusedly than a quadrilateral and more distinctly than a hexagon; and so on, until you reach the point where you have nothing you can explicitly visualize. And because you can no longer grasp the figure explicitly, you do not bother to make a supreme mental effort. …Hence if you want to say that you are simultaneously "imagining and understanding" a figure when you are aware of it distinctly and with some discernible effort, whereas you are understanding it when you see it only confusedly and with little or no effort, then I am prepared to allow this usage.[14]

Descartes thinks that we can easily tell apart non-imagistic ideas of mind, body, and God. Cavendish and Gassendi are worried that we would have no basis on which to differentiate such ideas and that in fact they are not ideas of anything at all.

Cavendish's doctrine of imagistic ideas faces a number of potential problems. One is that a pictorial image is often neither sufficient nor necessary to capture the most central details of an object. For example, we could imagine a case in which a person is looking at a photograph, but they are puzzled, and their first question is – of what is that a picture? The person might entertain an imagistic idea and ask the very same question. To fill in the example, suppose that the person has never encountered a camera, but they see a camera and then later entertain a mental image of it. If we assume that the person has absolutely no sense of what a camera is used to do, it is a stretch to say their idea is *of* a camera. In a perhaps more extreme case, we might consider an explorer who finds an ancient relic in the desert, where the rituals for which the relic was employed have long been defunct, and where the associated cultural memory has become extinct as well. The explorer pictures the object, but does not have an idea of the object that it is (or was).

We might vary the example still further and raise the objection against Cavendish that there are cases in which we have an idea of an entity even if we have lost the ability to remember what the entity looks like, or if we have difficulty in thinking in terms of pictures at all. We consider for example a person who knows the word "camera," and is able to think it, even though it in no way depicts a camera. We suppose that the person stumbles upon a camera at her friend's house, and on the basis of her past experience uses it with extreme proficiency. It would seem that such a person *does* have an idea of a camera, even if she never entertains a picture of one. Cavendish's larger system does have the resources to respond to this objection, though she does not develop the response herself – presumably because it amounts to a retreat from the view that ideas are imagistic pictures. The response is that there *are* non-pictorial elements of ideas and that these are to be understood in terms of embodied skills and know-how. As we will see in chapter two, Cavendish defends the view that generally speaking bodies are sophisticated and intelligent: they possess what is often identified today as embodied intentionality or embodied intelligence.[15] Given the centrality of this view in her philosophical system, it is surprising that she does not develop her doctrine of ideas in line with the view and argue that for all we know there are cases in which we have no explicit image of an object but still have an idea by which we can manipulate the object skillfully and with direction.[16] If so, an idea might sometimes include a picture, but not necessarily.

Another potential problem for Cavendish's doctrine of imagistic ideas is that it does not come with a principled method for telling apart those pictorial images that are ideas from those pictorial images that are not.[17] She might respond to this objection by telling a causal story about the production of

images that are ideas – according to which an image is an idea so long as it is a copy of an object that impacts our sense organs, for example – but in that case the content of an idea would be fixed not just by its imagistic content, but by factors that are external to it. An idea would not just be an imagistic picture of an object, but an imagistic picture that is formed via cognitive faculties and that has the object as its partial cause. Cavendish does in fact develop a view of idea-formation along these lines, as we will see later in the chapter. She does not say that an idea's content includes a reference to its causal origin, but she does say that when an idea forms it is by a process through which the mind copies or patterns an external object. If she were to subscribe to the view that something is an idea not just when it is an imagistic picture, but when it is an imagistic picture of the object that produces it, she would encounter two new problems, however: there might be many causes involved in the production of an idea; and there will be cases in which we are not aware of the causes of an image, and so we would not always know if an image is an idea or, if it is, what it represents.

A final problem for Cavendish's doctrine of imagistic ideas is that it would not appear to be able to account for the existence of ideas of truths of logic or mathematics. Her doctrine of imagistic ideas might be able to account for our reasoning about geometrical figures, but we might ask how (on her account) we are similarly able to reason to conclusions about number: for example, that 26 x 87 = 2262. Presumably, we do not picture a set of 26 dots, and then picture 87 of these sets in total. Nor do we simply picture the squiggles "26" and "87" and "2262." An alien could do *that*, and without any sense that what it had in mind was numbers. Our ideas of rules of logical inference would seem to be similarly intractable on a picture theory of ideas. Cavendish herself will make use of such rules throughout her corpus, but it is not clear how she (or anyone else) would be able to represent these rules in thought if her doctrine of imagistic ideas is correct, and it is not clear how she (or anyone else) would be able to reason in the light of them. Cavendish does not confront this objection directly, though there are a few things that she might say in response to it. First, she might appeal (as per the above) to her doctrine of embodied intelligence and argue that there are cognitive processes that are above and beyond the imagistic ideas that we possess – processes that undergird these ideas and that make possible the reasoning in which they are involved. If so, Cavendish might argue that there is a kind of skill or know-how that a person has when he can do math or logic – something that is not had by the being who just thinks squiggles (like "26" and "87" and "2262"). If Cavendish took this route, she would be parting from her account of ideas as imagistic pictures, but given her larger fallibilism and also her commitment to the existence of unconscious intelligence and embodied know-how, she might be happy to concede the amendment.

A lot more work would need to be done to account for our ideas of truths of logic and mathematics along these lines. An account in terms of embodied

know-how would need more fleshing out, and one thing that Cavendish would need to explain in particular is the way in which our ideas of the truths of logic and mathematics incorporate a sense of the necessity of those truths. As we will see in later chapters, Cavendish does not suppose that we encounter anything like *necessities* in our experience – all that we encounter is material bodies and their properties, and that is all that our minds are able to conceive or uncover and detect. We might then ask her what it is that our idea (for example) that 2+2=4 is picking up on when we are certain that 2+2=4 by necessity, or when we believe that the truth of two and two adding to four is less contingent than the truth that there happen to be four trees in a given field. Later in the eighteenth century, Hume will argue that all of our ideas are copies either of impressions of sensation or impressions of internal reflection; he argues that our idea of necessity does not trace to anything outside of us and that, since we do have an idea of "it," the idea traces to internal impressions instead.[18] In particular, it traces to a very strong feeling of expectation that develops in our minds when objects are constantly conjoined in our experience. A number of factors indeed are involved: habit, feeling, trust, anticipation, and perhaps others.[19] Cavendish does not delve into the question of the origin of our idea of necessity, or how that idea is captured in an imagistic thought. We might speculate a bit, however, given some of the views that she will end up developing in the rest of her system.

One of these views is that bodies have sensations and feelings. Of course, human beings have sensations and feelings, but Cavendish will argue that the bodies that compose us are not different in kind from the bodies that compose the rest of the natural universe. Cavendish indeed argues that bodies possess a whole spectrum of different kinds of features, including color, taste, and sound.[20] Since bodies and their properties are all that exist, whatever properties exist are properties of bodies. Another view that Cavendish defends is that bodies are animated and that imagistic ideas – because they are collections of bodies – are animated as well. An imagistic idea is not a static picture, and indeed it might be extremely active, like a figure that is featured in a bout of fanciful imagination. The suggestion on the table, then, is that there is a fairly wide spectrum of resources to which Cavendish might appeal in her attempts to show how an imagistic idea can capture or depict an object or entity that we might think would be too recalcitrant. For example, the "necessity" or force of a mathematical or logical truth might be captured in our idea of the truth because the idea incorporates a strong feeling of compulsion with which the truth is associated. Perhaps the imagistic idea itself has a feeling of compulsion, and is animated and alive. The suggestions here are largely speculative, but if we look ahead to the view of matter that Cavendish will develop, perhaps the ideas that we assume to be unfriendly to an imagistic theory of ideas are unfriendly only because our understanding of body and of images is narrow and restrictive. Images are pictures, but they are not still-pictures; they might be more like the characters in a film. If Cavendish were to take this route, she

would still need to fill in the details for each of the ideas that would appear to be recalcitrant to her view. And the ideas in question would no doubt end up looking very messy – clusters of bodies with motions and feelings, perhaps even goals and aims. Given her analysis of geometrical ideas, however, ideas are sometimes quite messy, even if they are also sufficiently clear and clean to get us by. There would also remain the question of whether or not ideas of truths of logic reflect how human minds ought to think, or if they simply capture the ways in which we think in fact.

There is also a blanket response that Cavendish would be prepared to offer to all of the objections that have been put on the table. It is not a response that will excite every philosopher – especially those of us who are inclined to stick to their guns in the face of an objection or counter-example – but methodologically speaking it is a response with which it appears Cavendish would be perfectly happy. The response is that her doctrine of imagistic ideas indeed encounters problems, and that it might benefit from a few modifications, but given the limits of our cognitive faculties, there are no philosophical theses that are without problems, and her own theses are quite illuminating and fruitful. For the most part, the way that we tell what we are thinking when we have an idea is by entertaining an image and reading off its details. No doubt there are cases in which we fail to determine the object of an idea, or are mistaken about it, and in some cases we might encounter a picture that we suppose is an idea but is not. However, this might just be our lot. As we will see, Cavendish is very humble with respect to the prospect that we will ever get things right once and for all and exactly. But she supposes that still we must forge ahead. She holds in general that there are serious limits to our cognitive capacities and that we must do with these the best that we can. Our explanations, accounts, and ideas are only so penetrating – even our understanding of our cognitive faculties themselves – but all of these function extremely well to get us by.[21]

Epistemic humility, fallibilism, and the limits of explanation

Cavendish appeals to a number of considerations to make a case for the view that our cognitive capacities are highly limited. For example, she argues that they are limited with respect to their ability to make sense of the relationship between causes and their effects. In many instances, we are able to determine which causes in fact lead to which effects – at least for purposes of everyday living – but we are not able to uncover *why* a given cause produces its effect. In a passage that is reminiscent of Hume (1748), and also Malebranche (1675) and Glanvill (1661), Cavendish writes in 1655 that

> the Load-stone may work as variously upon several bodies, as fire, and produce as various effects, although nor to our sense, nor after the same manner of wayes, that fire doth, and as fire works variously

upon various bodies, so there are fires, as several sorts, and those several sorts have several effects, yet one and the same kinde, but as the causes in nature are hid from us, so are most of the effects; but to conclude my discourse, we have onely found that effect of the Load-stone, as to draw iron to it; but the attracting motion is in obscurity, being invisible to the sense of man, so that his reason can onely discourse, & bring probabilities, to strengthen his arguments, having no perfect knowledge in that, nor in any thing else, besides that knowledge we have of several things, comes as it were by chance, or by experience, for certainly all the reason man hath, would never have found out that one effect of the Load-stone, as to draw iron, had not experience or chance presented it to us… [T]he Load-stone may work as various effects upon several subjects, as fire, but by reason we have not so much experience of one as the other, the strangenesse creates a wonder, for the old saying is, that ignorance is the mother of admiration, but fire which produceth greater effects by invisible motions, yet we stand not at such amaze as at the Load-stone, because these effects are familiar unto us.[22]

The basic idea that Cavendish is expressing, and that is famous from the work of Hume, is this. We often take ourselves to understand why one event leads to another when we have noticed a pattern in which the occurrence of the second follows the occurrence of the first. For example, we might say that a certain ailment is caused by the consumption of a particular berry, if we have noticed that the two have been conjoined in our experience. We might then press more deeply and attempt to explain why the consumption of the berry is the cause of the ailment: the berry is composed of bodies that have a certain configuration, and we have noticed that the consumption of bodies with that configuration is regularly followed by a decay in human health. But Cavendish is supposing that all that we have located in our deeper explanation is a further brute fact about particular bodily configurations and their relationships. We do not understand how or why the berry is able to do what it does: at a certain level, bodies have basic capacities by which they do whatever it is that they do, and that is that.

Cavendish is not denying that there is a tremendous amount of value in studying the patterns that are exhibited in the behavior of bodies. Although we will not understand ultimately why one particular event leads to another, there will be a practical payoff that is enormous.[23] She writes,

> you desire to know, *Whether any truth may be had in Natural Philosophy:* for since all this study is grounded upon probability, and he that thinks he has the most probable reasons for his opinion, may be as far off from truth, as he who is thought to have the least; nay, what seems most probable to day, may seem least probable to morrow, especially if an ingenious opposer, bring rational arguments

against it: Therefore you think it is but vain for any one to trouble his brain with searching and enquiring after such things wherein neither truth nor certainty can be had. To which, I answer: That the undoubted truth in Natural Philosophy, is, in my opinion, like the Philosopher's Stone in Chymistry, which has been sought for by many learned and ingenious Persons, and will be sought as long as the Art of Chymistry doth last; but although they cannot find the Philosophers Stone, yet by the help of this Art they have found out many rare things both for use and knowledg. The like in Natural Philosophy, although Natural Philosophers cannot find out the absolute truth of Nature, or Natures ground-works, or the hidden causes of natural effects; neverthelss they have found out many necessary and profitable Arts and Sciences, to benefit the life of man; for without Natural Philosophy we should have lived in dark ignorance, not knowing the motions of the Heavens, the cause of the Eclipses, the influences of the Stars, the use of Numbers, Measures, and Weights, the vertues and effects of Vegetables and Minerals, the Art of Architecture, Navigation, and the like…[24]

[n]atural physitians may come to know the thoughts, as they [Philosophers] the stars, by studying the humors of men, & may know what influences they may have upon the body; and may know the severall changes of their humor, as they the several changes of the moon, that the several changes of the humor, causeth the bloud to ebb and to flow, as the Tides of the Sea; thus they may make an Almanack of the body, for to shew what weather and seasons there will be, as great tempests and stormes of wind-collick; whether there will fall upon the Lungs, great rheumes, as showers of rain, or whether there may be great and hot fevers, or whether there will be earthquakes of shaking Agues, or cold, and dumb-palsies, or whether there will be dearths of flesh, and so leave bones bare, by the droughts of heated fevers, or whether the over-flowing of moisture, which causeth dropsies; thus if we could finde the several motions in several diseases in a body, as surely might be done by observations, and study, and could finde out the several motions by the several operations in [P]hysic, we might surely so apply them together, as to make animals, though not live eternally, yet very long; and truly I think this both of philosophical opinions, may give a great light to this study.[25]

Cavendish supposes that there is tremendous profit to be had from observing patterns that are exhibited in the behavior of bodies. The profit is not from understanding why a given cause leads to a given effect, even if the drive for such an understanding is sometimes the impetus for the highly practical discoveries on which we do converge. With the right amount of attention to detail, we register the brute facts about which causes lead to which effects,

and create a record for purposes of navigating our environment. An understanding of why a given cause would lead to its effect, however, is beyond us, along with many of the details of the regularity patterns themselves:

> in Philosophy there is nothing so ordinary, as to mistake the cause of things, since indeed the things for the most part are hid from us…[26]
>
> I bend my self to study nature; and though nature is too specious to be known, yet she is so free as to teach, for every straw, or grain of dust, is a natural tutor, to instruct my sense and reason, and every particular rational creature is a sufficient School to study in.[27]
>
> Nature being so subtil and curious, as no particular can trace her ways…[28]

Cavendish allows that one of our limitations is that we are never able to observe all of the variables that might be involved in a given causal interaction.[29] Even if we *were* able to observe all of the causes that were in play in the production of a given effect, however, all that we would notice is instances of constant conjunction.

Cavendish does not emphasize our cognitive limits just to expose them to us, however, or to kick us while we are already down. For example, one of her motivations in arguing that we never understand the ultimate reason why a given cause leads to its effect is to instill in us a respect and admiration for entities that might otherwise come to seem familiar, contemptuous, and mundane. As we will see in chapter two, an argument that she offers for the view that matter thinks is that matter is sophisticated and remarkable, and has the wherewithal to engage in the very highest forms of activity. If we stop and pay attention, Cavendish thinks, we will notice this, and we will not be inclined toward the competing view that matter is unimpressive and inert. We do not understand why bodies exhibit the patterns that they do, she argues, but causes somehow bring about their effects, and indeed there is "Natural Magick" all around us.[30] We would be wise to recognize that bodies have extraordinary capacities, Cavendish supposes, but instead we take the behavior of bodies to be common and unremarkable. As a result, we turn our attention to affairs that we take to be more lofty and exalted, ignoring matters of importance that are right in front of us. There are many questions that are beyond our reach, and if we focus our cognitive faculties on these we might be throwing good money after bad, and wasting time that could be much better spent:

> there are none that are more intemperate than Philosophers; first, in their vain Imaginations of Nature; next, in the difficult and nice Rules of Morality: So that this kind of Study kils all the Industrious Inventions that are beneficial and Easy for the Life of Man, and makes one sit onely to dye, and not to live. But this kind of Study is

not wholly to be neglected, but used so much, as to ballance a Man, though not to fix him; for Natural Philosophy is to be used as a Delight and Recreation in Mens Studies, as Poetry is, since they are both but Fictions, and not a Labour in Mans Life. But many Men make their Study their Graves, and bury themselves before they are dead.[31]

Nature hath infinite Varieties of Motions to form Matters with, that Man knows not, nor can guess at; and such Materials and Ingredients, as Mans gross Sense cannot find out insomuch that we scarce see the Shadow of Natures Works, but live in Twilight, and have not alwaies that; but sometimes we are in Utter Darkness, where the more we wander, the apter we are to break our Heads.[32]

Cavendish sees a danger in the historical efforts of philosophers to arrive at a final picture of what there is and why. Any such effort would lead to inevitable frustration, and we would be better off to expend our energy in the direction of goals that are attainable and that bear fruit in the day-to-day. We may not understand why the laws of nature are what they are, or why bodies have some of the basic tendencies that they do, but we can locate important results that help us to survive and to flourish.

Cavendish acknowledges that we have a drive to get at how things are and that this drive can be powerful, but she recommends that we rein it in where appropriate. One of the ways that we can do this, she thinks, is by recognizing that there are questions and problems that we seem to be able to express in language but that cannot in fact be articulated. She writes,

> WE Complain of the Differences in our Arguments, Disputes, and Opinions, but we never Complain of the Subjects of our Studies, Arguments, or Disputes, for we Spend our Time, and Wear out our Lives in our Studies and Discourses, to prove Something Nothing, as witness, Motions, Notions, Thoughts, and the like; nay, all Scholars and Student[s]… their Arguments are Empty Words, without Sense or Reason, only fit for Fools to Believe, and Wise men to Laugh at; But I wish that our Studies and Arguments may be such, as to Benefit our Lives, and not such as to Confound our Saving Belief.[33]

Cavendish supposes that some of our investigative pursuits are hopeless. One example, she would say, is the attempt to understand why a given cause would lead to its effect. A pursuit might also be hopeless by virtue of the fact that we are not able to form (imagistic) ideas of the entities that the pursuit takes for its subject matter. If we cannot have an idea of an entity, we cannot conceive of it, and we cannot meaningfully speak of it:

> If you do write Philosophy in English, and use all the hardest words and expressions which none but Scholars are able to understand, you

had better to write it in Latine; but if you will write for those that do not understand Latin, Your reason will tell you, that you must explain those hard words, and English them in the easiest manner you can; What are words but marks of things? and what are Philosophical Terms, but to express the Conceptions of ones mind in that Science? And truly I do not think that there is any Language so poor, which cannot do that; wherefore those that fill their writings with hard words, put the horses behind the Coach, and instead of making hard things easie, make easie things hard, which especially in our English writers is a great fault; neither do I see any reason for it, but that they think to make themselves more famous by those that admire all what they do not understand, though it be Non-sense…[34]

Here Cavendish is appealing to her theory of ideas as a corrective to (what she takes to be) a broad swath of philosophical discourse. If we do not have a clear picture in mind when we are purporting to speak about some philosophical subject matter, our use of linguistic terms to "refer" to that subject matter might cover up that we do not have an idea of what we are talking about. Hume argues a number of years later that it is imperative that we locate and identify the ideas for which our terms are used to stand in: if we employ a term but cannot locate the corresponding idea (or the impression that gave rise to the idea), the term does not mean anything, and we should refrain from using it.[35] Hume warns us against the dangers of failing to recognize non-referential language for what it is, though he remarks famously that even though "the errors in religion are dangerous; those in philosophy [are] only ridiculous."[36] Cavendish will agree that errors in religion are dangerous, but she worries that meaningless philosophical discourse is just as potentially harmful – it distracts us from matters of importance that desperately require our attention.

Cavendish is concerned that our ideas only penetrate so far and that we would be wise to recognize our cognitive limits. Even the mathematical and geometrical demonstrations that we take to be the pillar of rigor are somewhat messy and imprecise, at least in the eye of the tradition. She accordingly recommends that we not be overly confident about any conclusions that we draw and that we work toward results that are fallibilistic and within our reach. She adds a caveat about our faculties that is stronger still: no matter how certain we are about a given result, and no matter how clear and perspicuous it is, we might be mistaken nonetheless. That is, no matter how confident we are, there is no proof or guarantee that our cognitive faculties have delivered us an accurate representation of reality. For example, for all we know we have been created by God in such a way that we are mistaken about results that are utterly obvious to us:

> Shall or can we bind up Gods actions with our weak opinions and foolish arguments? Truly, if God could not act more then Man is able

to conceive, he were not a God of an infinite Power; but God is Omnipotent, and his actions are infinite, supernatural, and past finding out; wherefore he is rather to be admired, adored and worshipped, then to be ungloriously discoursed of by vain and ambitious men, whose foolish pride and presumption drowns their Natural Judgment and Reason…[37]

God is not tied to Natural Rules, but that he can do beyond our Understanding…[38]

> nothing is impossible with God; and all this doth derogate nothing from the Honour and Glory of God, but rather increases his Divine Power…[39]

Here Cavendish is supposing that we have been made by an omnipotent creator that can do anything, and that it can therefore create us with defective minds. She has to be careful if she is going to put too much weight on this line of reasoning – in part because her own fallibilism entails that it might not be trustworthy itself, but also because she holds that ideas are imagistic pictures and that we can have no idea of God or His (omnipotent) nature.[40] Cavendish thus has multiple reasons for thinking that there is no argument from the nature of God that entails that our cognitive faculties are reliable. She appears also to suppose there is no defense of the reliability of our faculties that does not already assume that they are reliable at the outset. We employ these faculties, but the results at which we arrive will in the end be ungrounded:

> man thinks himself to have the Supreme knowledge, but he can but think so, for he doth not absolutely know it, for thought is not an absolute knowledge but a suppositive knowledge…[41]

Cavendish is suggesting that finite minds have to settle for chains of reasoning that we find intuitive and compelling in the light of the cognitive faculties that are available to us, and that it is not clear that we have any better options. She does not recommend that we take skepticism about the reliability of our faculties especially seriously – that we be suspicious of the conclusions that we draw, or that we direct our energies toward refutations of skepticism so that it is no longer a threat. Instead, she supposes that the best that we can do is to reason in the light of the faculties that we have at our disposal, but allow that it is possible that any result at which we arrive is mistaken.

Moderated empiricism

Cavendish has a view on the imagistic nature of ideas, and on their messiness and imprecision, and she also has a view on how it is that ideas come to acquire their content. In an early text, she argues (against Descartes and

others) that there is nothing that is in the intellect that was not first in the senses.[42] She writes,

> SOme say that there is such a nature in man, that he would conceive and understand without the senses, though not so clearly, if he had but life which is motion. Others say, there is nothing in the understanding, that is not [f]irst in the senses, which is more probable, for the senses bring all the materials into the brain, and then the brain cuts and divides them, and gives them quite other forms, then the senses many times presented them; for of one object the brain makes thousands of several figures, and these figures are those things which are called imagination, conception, opinion, understanding, and knowledge, which are the Children of the brain, these put into action, are called arts and sciences, and every one of these have a particular and proper motion, function, or trade, as the imagination, and conception, builds, squares, inlayes, grinds, moulds, and fashions all, opinion, caries, shows, and presents the materials to the conception, and imagination; understanding distinguishes the several parcels, and puts them in right places, knowledge is to make the proper use of them, and when the brain works upon her own materials, and at home, it is called poetry and invention, but when the brain receives and words journey-work, which is not of its own materials, then it is called learning, and imitation…[43]

Here Cavendish is making a number of suppositions. One is that some of our ideas – those involved in "poetry and invention" – fail to conform to existing objects. The second supposition is that these and all other composite ideas are constructed from more basic ideas that originate in sensory experience.[44] The brain "cuts and divides" the latter, and "gives them quite other forms." The third supposition is that when we work upon our basic ideas to craft a new form, we are inventing, but when our mind – or Cavendish will argue, our brain – has ideas that are not "of its own materials," we are learning or imitating or copying. This latter supposition is especially important to note because Cavendish will argue that sensory perceptions are in general veridical and tend to be accompanied by the formation of ideas that are copies of the same. Cavendish identifies as "more probable" the thesis that there is nothing in the intellect that was not first in the senses. She uses this language in part as a reflection of her fallibilism, but also noteworthy is that she will modify the view to account for exceptions.

Cavendish subscribes to a version of the doctrine that we find later in Hume that all ideas are copies of impressions.[45] She supposes that (it is probable) that there is nothing in the understanding that was not first in the senses and that "the senses bring all the materials into the brain." In her terminology, sensory experience always involves a double perception – one sensitive, and one rational:

> For the Ground of my Opinions is, that there is not onely a Sensitive, but also a Rational Life and Knowledge, and so a double Perception in all Creatures.[46]
>
> every Creature has a double perception, rational and sensitive…[47]

For Cavendish, our perceptions are "double" in the sense that any object that we sense is also an object of which we have a rational perception or idea. It is more probable that nothing is in the intellect that was not first in the senses, she had said, and so sensory perceptions happen first, and then rational perceptions or ideas form on the basis of these:

> AS for the Rational parts of the Human Organs, they move according to the Sensitive parts, which is, to move according to the Figures of Foreign Objects; and their actions are (if Regular) at the same point of time, with the Sensitive: but, though their Actions are alike, yet there is a difference in their Degree; for, the figure of an Object in the Mind, is far more pure than the figure in the Sense. But, to prove that the Rational (if Regular) moves with the Sense, is, That all the several Sensitive perceptions of the Sensitive Organs, (as all the several Sights, Sounds, Scents, Tasts, and Touches) *are thoughts of the same*.[48]

We might construct ideas that are fantastical, or that picture something much more complex than what we have ever encountered. Cavendish is arguing, however, that the components of such ideas will always be traceable to ideas that were originally copied in sensory experience. Her argument is that if we examine any of our ideas, we will not locate elements that were *not* copied in sensory experience. As she puts it, we will consider our sensitive perceptions, and we will notice that our ideas or rational perceptions "are thoughts of the same." Noteworthy again is that Cavendish says that it is "more probable" that our ideas have their origin in the senses. As we will see later in the chapter, she allows that some ideas appear to be direct copies of objects themselves, without intervening sensory perceptions. She retreats in part because of her fallibilism, but in larger part because her view on the sophistication of matter entails that some imagistic ideas have the wherewithal to form on their own.

Cavendish supposes that ideas tend to be copies of sensory perceptions, and she also supposes that sensory perceptions are copies of the objects that produce them.[49] What it is to have a waking sensory perception of an object, for Cavendish, is to behold an image of the object and for the image to resemble the object.[50] As opposed to the images of dream perception, the images of waking perception are copies of external bodies:

> the actions of Sleep, are the alterations of the Exterior Corporeal Motions, moving more interiorly, as it were inwardly, and voluntarily: As for example, The Optick Corporeal Motions, in Waking-actions,

work, or move, according to the outward Object: but, in Sleeping-actions, they move by rote, or without Examples; also, as I said, they move, as it were, inwardly…[51]

dreaming is when they move in figures, making such figures as these objects, which have presented to them by the sensitive motions, which are onely pictures, or copies of the Original objects, which we call remembrance, for remembrance is nothing but a waking dream, and a dream is nothing but a sleeping remembrance…[52]

Here Cavendish is articulating the view that "sensitive motions… are… copies of the Original objects" and that when we are awake, our "Optick Corporeal Motions… move, according to the outward Object." She does not defend the view here or elsewhere in her corpus; she just supposes it. She is well aware that there are skeptical arguments to the effect that for all we know our sensory perceptions might fail to correspond to reality, but she appears to have little patience for skepticism, and even less concern. She does not attempt to refute it, and she recognizes that sometimes we have dreams that are utterly indistinguishable from waking experiences:

> many times, Dreams will be as exact as if a Man was awake, and the Objects before him; but, those actions by rote, are more often false than true: but, if the Self-moving Parts move after their own inventions, and not after the manner of Copying; or, if they move not after the manner of Human Perception, then a Man is as ignorant of his Dreams, or any Human Perception, as if he was in a Swound…[53]

Cavendish's response to the worry that a dream can seem as real as a waking experience is to concede that when it does, we cannot tell whether or not we are dreaming. She adds that dream perceptions do not occur "after the manner of Copying," but that waking perceptions do. The supposition that waking perceptions are copies of external objects appears to be fundamental for Cavendish, as if there is little more to be said.

The veridicality of sense perception

Cavendish *trusts* sensory perception. She insists without pause that it is generally speaking veridical.[54] She goes so far as to say that microscopes and other instruments are misleading and defective when they present objects differently than the naked eye. For example, she writes,

> [A]nd if the Picture of a young beautiful Lady should be drawn according to the representation of the Microscope, or according to the various refraction and reflection of light through such like glasses,

> it would be so far from being like her, as it would not be like a humane face, but rather a Monster, then a picture of Nature. Wherefore those that invented Microscopes, and such like dioptrical Glasses, at first, did, in my opinion, the world more injury then benefit; for this Art has intoxicated so many mens brains, and wholly imployed their thoughts and bodily actions about phaenomena, or the exterior figures of objects, as all better Arts and Studies are laid aside; nay, those that are not as earnest and active in such imployments as they, are, by many of them, accounted unprofitable subjects to the Commonwealth of Learning.[55]

Here Cavendish is supposing that unassisted sensory perceptions are veridical and that instrument-assisted perceptions that depart from these are not. She nowhere attempts to refute skepticism about waking sensory perceptions, though she is clearly aware that it is a philosophical option. Nevertheless, there are at least two lines of response that might be gleaned from her larger corpus.

First, she might argue that the track record of attempts to refute external-world skepticism is terrible and that, as with many things cognitive, there are better ways for us to spend our time. We should not worry ourselves with the question of whether or not our sensory perceptions conform to external bodies, and we should focus our energies instead on pursuits that are more practical – pursuits that cannot get off the ground unless we suppose that external bodies are pretty much as we perceive them. Cavendish is certainly sympathetic toward this approach. With later philosophers like Hume and Thomas Reid, she appears to hold that it is just a fundamental starting point of inquiry that sensory perceptions are trustworthy.[56] She has said that a "ground" of her philosophy is that ideas are copies of sensory perceptions, and perhaps it is similarly a ground of her philosophy that sensory perceptions resemble objects. She supposes that dreams and hallucinations misrepresent reality; perhaps she is thinking that one of the main motivations for external-world skepticism is that we sometimes have mis-representational perceptions but that we only identify these as mis-representational against a background of perceptions that we presume we can trust. If the possibility that our sensory perceptions can be radically deceptive itself depends on the supposition that for the most part they are trustworthy, then Cavendish would draw the conclusion that generally speaking they are not deceptive. If the possibility depends on some other supposition, Cavendish would ask whether or not this supposition is more obvious than the supposition that external bodies exist as we sense them. She would say in every case that it is not. Cavendish does not state explicitly why she never attempts a refutation of external-world skepticism, but she appears to hold that any such refutation is not only hopeless, but unnecessary, and that there are other matters that are more pressing and urgent.

Her comments about medical science are very suggestive in this regard. There is so much at stake in the attempt to discover the causes of health and

disease, she supposes, that scientists should focus their time on making extremely meticulous observations, and work on just a single disease or condition. A scientist might instead expend effort in the attempt to refute skepticism, but that would be unlikely to bear fruit, and it would divert energy from matters that cannot wait. We should trust the deliverances of the senses, Cavendish thinks, and we should trust that the ideas by which we reflect and deliberate are similarly reliable copies of these. She writes,

> IT is almost impossible for all Physicians to know all Diseases, and their Remedies, as they pro[f]ess to do, by their general Practices; for we find, to learn a mean Art, it is the study and service of seven Years; and certainly it is much more difficulty to know Diseases, which are like Faces, not any one alike; Besides, Diseases lye so hid in the Body of an Animal, as they are never perfectly known, but guess'd at; and to know the Cure of a Disease, is as hard, as to know the Disease; and indeed we can never know a perfect Cure, unless we could know the undoubted Cause. But Physicians should watch, as Philosophers, the Stars, with Observations, and in time they may guess so well, as seldom to fail of a Remedy. Wherfore it were good, that every particular Physician should be bound by a Law to study onely a single Disease, and the Cure thereof, and not to confound their Brains with tearms and names of Diseases, and to kill the Patient, by being ignorant of the Cause. But let every Disease, go to a proper Physician; for though there be a multitude of Diseases, yet there are more Physicians: but such is the sad Condition, that they rather adventure to Chance, or Luck, than Skill; for Diseases are like several Countenances in Faces: though there be one and the same kinds of Faces, as Man-kind, Horse-kind, and Cow-kind, yet every Horse-face is not alike; nor every Mans Face is not alike; so Diseases: as Pox-kind, and Plague-kind, and Feaver-kind: yet all Feavers are not alike, nor Plagues, nor Pox; for they are different in degrees; wherefore one and the same Medicine will not cure one kind of Disease, but the Medicine must differ, as the Disease…[57]

There are so many complicated variables at work in the well-functioning of a human body that we will never uncover all of them, Cavendish supposes, but we might uncover most of them – at least if we are not distributing our effort toward pursuits that are a dead-end. We should trust our meticulous sense perceptions given the payoff that ensues if we are correct, and our time-sensitive reflections and deliberations should be restricted to ideas that are copies of these. Cavendish does not purport to *demonstrate* that sense perceptions are accurate copies of external bodies, or that our ideas tend to be (accurate) copies of these. The assumption that bodies are actually out there, and are the objects of our thought, is just a precondition of our pragmatic dealings with them.

Thus far we have considered one response to external-world skepticism that can be gleaned from Cavendish's corpus: that it is a non-starter. An attempt at a full-blown refutation of external-world skepticism can also be reconstructed from her corpus, even if Cavendish might not care much to piece it together herself. The argument or refutation is from the nature of ideas, and it would run like this: ideas are representational by nature, and if they are representational, they (or at least their simplest elements) represent and hence conform to some reality.[58] They represent some reality to which they conform, and an examination of their content reveals that they conform to bodies as perceived through the senses.

Descartes proceeds along these lines in the First Meditation, at least in part, and indeed the argumentative move is not wholly implausible. He writes,

> Suppose then that I am dreaming, and that these particulars – that my eyes are open, that I am moving my head and stretching out my hands – are not true. Perhaps, indeed, I do not even have such hands or such a body at all. Nonetheless, it must surely be admitted that the visions which come in sleep are like paintings, which must have been fashioned in the likeness of things that are real, and hence that at least these general kinds of things – eyes, head, hands and the body as a whole – are things which are not imaginary but are real and exist. For even when painters try to create sirens and satyrs with the most extraordinary bodies, they cannot give them natures which are new in all respects; they simply jumble up the limbs of different animals. Or if perhaps they manage to think up something so new that nothing remotely similar has ever been seen before – something which is therefore completely fictitious and unreal – at least the colours used in the composition must be real. By similar reasoning, although these general kinds of things – eyes, head, hands, and so on – could be imaginary, it must at least be admitted that certain other even simpler and more universal things are real. These are as it were the real colours from which we form all the images of things, whether true or false, that occur in our thought.[59]

Here Descartes is supposing that although many of our composite ideas might be fictional, the simplest and most basic of the ideas that compose them are not. A composite idea might be fictional, but the "real colours" of an idea – those of its elements that cannot be broken down further – are not fictional if ideas represent intrinsically. Spinoza would appear to be in the same camp: part of what it is for something to be a true idea is for it to be representational in the strong sense of having an object with which it agrees,[60] even though composite ideas can be fictional or incomplete.

There is reason to believe that Cavendish is in this camp as well. She grants that there are many ideas that we assemble and that are patently fictional, but

insists that ideas that we do *not* assemble are of existing things. As she put it, some opinions or ideas are grounded in truth, and some are grounded in fancy. The latter are representations that we have put together on our own and that we can change easily and at will, whereas the former are not up to us. She writes for example,

> as for his [Aristotle's] incorporeal Intelligences, which are Eternal and immovable, president over the motions of the inferior orbs, Forty seven in number; this is rather a Poetical Fancy, then a probability of truth, and deserves to be banished out of the sphere of Natural Philosophy, which inquires into nothing but what is conformable to the truth of nature; and though we are all but guessers, yet he that brings the most probable and rational arguments, does come nearer to truth, then those whose Ground is onely Fancy without Reason.[61]

Cavendish supposes that some representations are the result of fanciful imagination and that others are more "conformable to the truth of nature." She does not offer an argument here, so much as she appears to be making a foundational assumption about the correspondence to reality of ideas that we do not fabricate ourselves. There are ideas out of which composite ideas are made, and some of these are fictional, but it cannot be the case that ideas – as representational entities – are fictional all the way down.

Some of the texts are indeed highly suggestive, but in the end we should resist attributing to Cavendish the view that there are simple ideas that are inherently representational and that refer to existing objects. The view fits well within the systems of Descartes and Spinoza, but Cavendish herself holds that ideas are physical images that are always further divisible, and so it is difficult to see how she could ever identify an idea as simple in any appropriate sense. Perhaps she could understand the simplicity of an idea in different terms and argue that what it is for an idea to be simple – or perhaps basic – is for it to be a copy of a sensory perception that is veridical. If Cavendish took this route, however, she would not be offering an argument but would just be assuming (as earlier) that sensory perceptions are for the most part veridical. The most plausible thing to say in the final analysis is that Cavendish is not concerned to offer a *defense* of the view that sensory perceptions and the ideas that are copies of them are veridical. Instead, she assumes the view without argument and supposes that no serious argument can be supplied. Our cognitive faculties are very limited, she is also supposing, and it would be a crime to engage them in pursuits that are beyond us, at the expense of goals that are in fact within our reach.

Before proceeding to a discussion of the metaphysical debates to which Cavendish applies her epistemology, there are two important qualifications to note about her theory of ideas. One is that she holds that external objects are only the partial cause of sense perceptions (and of the ideas that are copies of

these). Another is that she allows that there are exceptions to the view that ideas are copies of sense perceptions.

A preliminary discussion of patterning

Cavendish resists the view that external bodies *produce* our sensory perceptions. She is worried that that view supposes that external bodies do most if not all of the work in the formation of the resultant images. The bodies that end up composing a sense image instead are quite active: the motions by which these enter into formation are not transferred from external bodies, but are already present in the sense organs of the perceiver. If a body ever *did* transfer motion to another body, Cavendish supposes, it would have to transfer some of its being or substance as well, but in the case of sensory perception our organs do not swell or become larger. She writes of the transfer of motion more generally:

> If one body did give another body motion, it must needs give it also substance, for motion is either something or nothing, body or no body, substance or no substance; if nothing, it cannot enter into another body; if something, it must lessen the bulk of the body it quits, and increase the bulk of the body it enters, and so the Sun and Fire with giving light and heat, would become less, for they cannot both give and keep at once, for this is as impossible, as for a man to give to another creature his human Nature, and yet to keep it still.[62]

Cavendish is supposing that a given motion is always the motion *of a body*. Motion cannot pass free-floating from one body to the next, and if some part of a body *does* add to the motion of another body, it brought its original (motion-possessing) substance along with it.[63] Cavendish's view on the formation of sensory images in particular is that an external body comes into contact with a sense organ and presents an image of itself, and then bodies in the sense organ – by their own motions – form a copy of the image.[64] She calls this patterning:

> to pattern out, is nothing else but to imitate, and to make a figure in its own substance or parts of Matter like another figure…[65]

There will be a further discussion of patterning in the treatment of Cavendish's view on the metaphysics of motion in chapters four and five. What is important to note in the context of discussing her epistemology is that Cavendish supposes that in patterning (1) an external body comes into contact with a sense organ, (2) the external body presents an image of itself at the point of contact, and (3) the bodies of the sense organ adapt to the image and make a copy of it.[66] The doctrine of patterning is no doubt peculiar; in defense of Cavendish,

however, the bulk of seventeenth-century attempts to make sense of the transfer of motion, and to make sense of the motions involved in the production of sensory perception, are peculiar. They were peculiar just because the phenomenon in question – the transfer of motion – is peculiar, and becomes resistant to explanation as soon as we begin to press on it.[67] Malebranche argued (in partial agreement with Cavendish) that motion is never transferred from one body to another, but that God is the immediate cause of all motion.[68] He argued further that bodies do not cause our sense perceptions and that because a sense perception (of a body) always supposes a background understanding of the infinite flexibility and extension of the body, part of what it is to have a sense perception is to be interfaced with the mind of God and entertain the (infinite) ideas that are housed therein.[69] Descartes argued famously that motion is never transferred from one body to another, but that God re-creates bodies in their new position from moment to moment.[70] He argued further that bodies are somehow able to occasion our sense perceptions, but in a way that is left unexplained.[71] Cavendish takes the positions of Malebranche and Descartes to be philosophically unacceptable, for reasons that we will explore later. For now she can note that if her own view of the transfer of motion is peculiar, it is just par for the course – a function of a very difficult and recalcitrant subject matter. She would concede that her own view is odd, but she supposes that reality itself is odd, and that it is mysterious and magical. She would also argue that her (1)–(3) have a lot going for them: (1) squares with the view that interaction only happens by contact; (2) makes sense of why a sense organ would form an image of a whole external body and not just the point at which they meet; (3) squares with the tenet that the bodies in nature tend to cooperate and work in unison.[72] Cavendish will of course be fallibilistic with respect to (1) through (3), but she sees them as plausible if not compelling explananda for a phenomenon that is puzzling and complex. Noteworthy also is that she will moderate the view that motion is never transferred from one body to another – she will allow that a body can forcibly *redirect* the motion of a second body, but insist that the quantity of motion in each body always remains constant. She supposes that in the case of sensory perception, however, there is no such forcible exertion: otherwise the sense organs would show signs of injury and strain, but instead they appear to interact seamlessly and fluidly with the bodies that (almost incessantly) come into contact with them.[73]

Beyond the senses

A second qualification to consider with respect to Cavendish's theory of ideas is that in the final analysis she holds that not all ideas have their origin in sensory perception. She had categorized as probable the view that there is nothing in the intellect that was not first in the senses, and she ends up allowing that there are counter-examples to it. Given how she understands the

difference between sense perceptions and ideas, however, the amendment is not especially dramatic. She supposes that the (rational) matter that makes copies of sensory images is at least as sophisticated as the bodies that compose a sensory image and that that matter is sometimes able to make copies straight from external objects themselves.

Cavendish holds that generally speaking ideas are copies of sensory images, but she also identifies instances in which they are not. She writes,

> Truly our reason does many times perceive that which our senses cannot; and some things our senses cannot perceive until reason informs them; for there are many inventions which owe their rise and beginning onely to reason.[74]

> it is well to be observed, that besides those exterior perceptions of objects, there are some other interior actions both of sense and reason, which are made without the presentation of exterior objects, voluntarily, or by rote; and therefore are not actions of patterning, but voluntary actions of figuring: As for example, Imaginations, Fancies, Conceptions, Passions, and the like; are made by the rational, corporeal, figurative motions, without taking any copies of forreign objects…[75]

> THere is a *Double Perception* in Nature, the Rational Perception, and the Sensitive: The Rational Perception is more subtil and penetrating than the Sensitive; also, it is more generally perceptive than the Sensitive; also, it is a more agil Perception than the Sensitive…[76]

Here Cavendish is supposing that the rational matter that enters into imagistic ideas is more penetrating than sensitive matter and that there are cases in which our cognitive faculties detect something that our senses do not reach.[77] We detect details about particular bodies, and we also seem to be able to decipher results like that something cannot come from nothing, that immaterial things cannot admit of motion, and that material things interact with material things only.[78] Cavendish has to admit that any such results will always be fallible and speculative, but given the limited reach of the senses, speculation is sometimes in order:

> although the interior actions of all other parts do not appear to our senses, yet they may be perceived by regular reason; for what sense wants, reason supplies, which oftener rectifies the straying and erring senses, then these do reason, as being more pure, subtile and free from labouring on the inanimate parts of Matter, then sense is, as I have often declared; which proves, that reason is far beyond sense; and this appears also in Chymistry, which yet is so much for sensitive experiments; for when the effects do not readily follow, according to

> our intentions, reason is fain to consider and enquire into the causes that hinder or obstruct the success of our designs. And if reason be above sense, then Speculative Philosophy ought to be preferred before the Experimental, because there can no reason be given for any thing without it.[79]

Cavendish is suggesting that in some cases the bodies that compose an imagistic idea are sufficiently sophisticated and organized that they can enter into a formation that is a copy of an object, but without an intermediary sense perception.

As we might expect, Cavendish does not offer an account of how exactly this happens, but she is arguing *that* it happens and that we know that it happens because we can point to particular cases. She writes for example that:

> although the subtilest corporeal motions cannot be perceived by us so perfectly as the grosser actions of Nature, yet we cannot but know by our rational perception, that there are such subtile actions which are no wayes subject to our exterior, sensitive perception…[80]

In chapter four we will consider in detail Cavendish's argument for the view that the physical universe is a plenum. She will argue that we have very good ground for believing that there is no empty space between bodies, and for believing that there are bodies that are not "subject to our exterior, sensitive perception." We have premises that we can marshal in favor of this and many other metaphysical conclusions, she thinks, and these premises are underdetermined by the senses. Cavendish is in effect taking a stand on the age-old question of how it is that we come to know things that we do not seem to know through our five senses. Instead of arguing that we know such things *a priori*, or that we can demonstrate them by means of ideas that are abstract and non-imagistic, or that upon closer inspection we *do* know them through our senses, she argues that we have a non-sensory faculty that is imagistic and material but that is not a matter of sight or taste or scent or hearing or touch.

There are a number of problems that arise for Cavendish's view that we have ideas that are in no way copies of sense perceptions. One is that it is not clear how Cavendish would make a principled distinction between ideas that are copies of sense perceptions that we do not recall having had, and ideas that are not copies of sense perceptions at all. For any idea that we form that is not a copy of a sense perception, Cavendish is committed to saying that it is an imagistic picture. In that case, however, each of its elements might for all we know be traceable to sense perceptions – even if we do not recall these exactly. Perhaps Cavendish would call attention here to philosophical axioms that we are able to conceive and that the senses would appear to underdetermine. In the construction of her metaphysics, she will appeal to principles like that something cannot come from nothing, that nothingness has no properties,

and that only material things partake of motion. For a philosopher like Descartes, part of what it is to entertain such maxims is to have ideas that are abstract and non-imagistic, but for Cavendish ideas are pictures. To the extent that all ideas are pictures, however, it is not clear why Cavendish is so confident that some of these are not copies of perceptions of sight, sound, taste, scent, or touch. Perhaps they copy sensory perceptions of repeating patterns that we have noticed to obtain, incorporating a feeling that we take to be identified with probability and likelihood.[81]

A second worry is that in the same way that Cavendish does not establish – but just supposes – that sensitive perceptions are veridical, she does not establish – but supposes – that rational perceptions tend to be veridical copies of external bodies as well. Cavendish presumably would respond to this worry in the same way that she responds to external-world skepticism: that is, she would argue that there are certain axioms or principles that are extremely intuitive and compelling – and more intuitive than any competitors – and that these are our best and most sustainable option if we are going to opt to put forward compelling answers to the perennial questions of philosophy. If there were other axioms that were more intuitive and perspicuous, we should accept those instead, but that is to concede that we should employ whatever axioms are most perspicuous, and Cavendish is supposing that that is what she has already done. If we were not able to locate any principles that were intuitive or compelling, or that did not entail substantive conclusions, Cavendish would suggest that we sidestep philosophical inquiry, but fortunately that is not our lot. There *are* substantive axioms that are quite intuitive, she is supposing, and we can explore these to see what they entail. These will not have any further support, but Cavendish is not in especially bad company on this count. She takes particular principles to be the ground of her philosophy in the sense that they have nothing further to support them, but she could add that Descartes and other philosophers proceed along the same lines. Descartes himself makes a distinction between the foundational (and not further supported) axioms of metaphysics, and the conclusions that are further derivable from these. He writes,

> [I]f there is any certainty to be had, the only remaining alternative is that it occurs in the clear perceptions of the intellect and nowhere else. Now some of [our] perceptions are so transparently clear and at the same time so simple that we cannot ever think of them without believing them to be true. The fact that I exist so long as I am thinking, or that what is done cannot be undone, are examples of truths in respect of which we manifestly possess this kind of certainty. …There are other truths which are perceived very clearly by our intellect so long as we attend to the arguments on which our knowledge of them depends…[82]

Cavendish could argue in defense of the ungroundedness of her own philosophical axioms that almost *any* philosopher will have to end up positing claims

that they take to be obvious, and to require no further ground. For Descartes, the self-evidence and ungroundedness of a claim is a badge of honor – a sign that it is the right sort of foundation for a result in metaphysics. For Cavendish, axioms of reason are foundational, but instead of being self-evident, she would identify them more fallibilistically – perhaps as self-probable. She supposes that claims that are extremely intuitive and clear are probably true, but as we have seen she leaves open the possibility that they are not. She writes,

> every part has besides its exterior, interior figure and motions, which are not perceptible by our exterior senses. Nevertheless there is some remedy to supply this sensitive ignorance by the perception of Reason; for where sense fails, reason many times informs, it being a more clear and subtile perception then sense is; I say many times, because reason can neither be always assured of knowing the Truth; for particular Reason may sometimes be deceived as well as sense; but when the Perceptions both of sense and reason agree, then the information is more true…[83]

Cavendish agrees with Descartes (and Spinoza and Leibniz and others) that there are certain principles that are so intuitive and obvious that they are the best basis for metaphysical conclusions. But Cavendish supposes that such principles are never unimpeachable. She takes her foundational principles to have a lot going for them, as Descartes does his own. Both agree that imagistic ideas can only get us so far, but for Cavendish imagistic ideas are the only sort of idea that we have.

A third problem for Cavendish is that she does not appear to have a way to explain how rational matter comes to detect things that sensitive perceptions (putatively) miss. She holds that all interaction is by contact, and so she would appear to be committed to the view that rational matter can leave a person's body and come into contact with entities that the sense organs do not touch. Cavendish does not have a better response to this third worry than to say that rational matter – the matter that composes ideas – is agile and sophisticated; it is not only able to enter into creative configurations, but it is also able to leave a body temporarily, and readily find its way back. This response is likely to seem implausible before we work out Cavendish's view on the sophistication and majesty of rational matter, and its ubiquity.[84]

A fourth problem for Cavendish is that regardless of how we arrive at metaphysical axioms, and irrespective of whether or not they are true, it is difficult to make sense of how they could be represented in thought if all ideas are imagistic pictures.[85] An example of an axiom that we grasp by reason, according to Cavendish, is that something cannot come from nothing, but it is difficult to imagine how this or any other such axiom could be captured in a picture. Cavendish might respond to this worry in the same way that it was suggested she might reply to the objection that her doctrine of imagistic ideas

cannot account for our ideas of truths of logic and mathematics. First, she might note that our ideas are often fairly complicated and messy, and that ideas of philosophical principles are no exception. We might think for example of the resources that Hume would employ to articulate the content of the thought that all ideas are copies of impressions: perhaps we have an idea of a lot of ideas, and an idea of a circular figure that surrounds the ideas and that is supposed to capture the fact that what we have in mind is *all* ideas; then we have an idea of a (vivid) impression that is connected to these by a mental (and imagistic) arrow, where the idea of the arrow carries with it a feeling (or perhaps an idea of a feeling) of tightness and connection. Hume would have to tell a similarly elaborate story about the idea (that he supposes that we can have) of an object as non-existent.[86] The imagistic content of the ideas in question would be very difficult to cash out, but Hume would say that although our thought is in some cases messy, it is enough to get us by. For Cavendish, ideas are imagistic pictures as well, and the idea of a philosophical axiom is something that an image is somehow able to capture. She does not do the work of fleshing out the content of the ideas of the "abstract" principles to which she appeals, but given her understanding of matter as active, and as having a whole spectrum of features including color, taste, and feeling, she could argue that what it is to think one of her principles is to think something very complicated and elaborate – and felt. Descartes and his followers insist that imagistic pictures are not adequate to perfectly reflect the generality and incorrigibility of metaphysical axioms, and Cavendish would no doubt agree. But she would argue that no matter how messy these might be, they are sufficiently clear and compelling for our purposes and needs.

Cavendish takes our non-sensory faculties to be trustworthy, generally speaking, but she does worry that there are instances in which we might be tempted to employ them to weigh in on matters that are beyond us. There are cases in which we feel the pull of a question, and a strong desire to locate an answer to it, but our faculties do not provide us with any direction at all:

> To give us Sense, and Reason too,
>
> Yet not know what we're made to do.
>
> Whether to Atoms turne, or Heaven up hye,
>
> Or into new Formes change, and never dye.
>
> Or else to Matter Prime to fall againe,
>
> From thence to take new Formes, and so remaine.
>
> Nature gives no such knowledge to Man-kind,
>
> Gives Knowledge none, but Misery to find.[87]
>
> Man's troubled Head and Brain still swelling

Beyond the Power of Senses five,

Not capable of those things telling:

Beasts beyond Senses do not strive.

Nature's just measure, Senses are….[88]

> the wisest and most probable way is, to rely upon sense and reason, and not to trouble the mind, thoughts, and actions of life, with improbabilities, or rather impossibilities, which sense and reason knows not of, nor cannot conceive.[89]

We might wonder about the undetectable powers by which a cause brings about its effect, or about what happens to us after we die, or about whether or not there exist any immaterials. We can ask these questions, or at the very least it would seem that we can ask them, but it would also seem that we are not able to come up with satisfying answers one way or the other. As Kant put it a hundred years later,

> Human reason has this peculiar fate that in one species of its knowledge it is burdened by questions which, as prescribed by the very nature of reason itself, it is not able to ignore, but which, as transcending all its powers, it is also not able to answer.[90]

The recommendation that Cavendish offers in such circumstances is that we discipline ourselves as much as possible. Beasts (or non-human animals) find a way to ignore questions that have no answer, and Cavendish regrets that we do not find it easier to follow their lead. We must be careful to try, however; otherwise we will waste time and energy that could be directed toward questions that are actually within our purview. With the proper discipline, we will be far less frustrated, and we can arrive at results that so far as we can tell are true: that the universe is a plenum; that human well-being is in large part a matter of understanding how we fit into the larger causal nexus; that in a plenum there is no space for unactualized possibilities; that matter thinks and that thinking matter is ubiquitous. We can apply these and other results to get a better sense of the kinds of things that surround us and how we might best stand toward them, and we can also get a better sense of how we might best stand toward ourselves. Cavendish concludes that we do not arrive at a final and definitive view about hardly anything, but she takes that to be an important result in itself. She does not wait to develop her metaphysics until she has located axioms that admit of no possible falsity. She hits the ground running with principles that so far as she can tell are plausible, compelling, and productive.

One final comment has to be made – about Cavendish's definition of matter. In the final analysis she holds that everything in nature is material – the bodies

with which our senses interact, the imagistic ideas that are copies of external bodies, and indeed any and all entities that we are able to detect, conceive, and theorize about. It is therefore very important that we locate her definition of matter. She nowhere offers an explicit definition, unfortunately, but as we will see, a fairly clear definition does emerge from her claims and arguments. In the end she takes matter to be three-dimensional substance that exhibits qualities like size, shape, motion, resistance, life, animation, and intelligence. With respect to the latter three qualities, it is important to note that Cavendish's understanding of what counts as material is heavily informed by her understanding of explanation. Some philosophers – for example Descartes, Malebranche, and Leibniz, and more contemporary philosophers like Frank Jackson and Thomas Nagel – want to conclude that if a property or feature cannot be understood in terms of canonical material properties like size, shape, and motion, the property is *immaterial*. [91] It is immaterial, even if it is the property of a body.[92] Cavendish does not share the same intuition here. She does not think that our inability to understand properties in terms of each other is any indication of their ontology; our inability to understand is instead an indication of our epistemic limitations and an indication that matter is sophisticated and magical. For example, she will present arguments for the view *that* matter thinks, but she will concede that we do not understand *how* it thinks, or why bodies that have features like size, shape, and motion are also intelligent. Instead of concluding that intelligence is an immaterial property of material substances, she concludes that as a property of body it is material itself. The other things that she is prepared to specify in her ontology – the things that she thinks we are able to detect and conceive and philosophize about – are bodies or properties of bodies as well.

Notes

1 *OEP*, 74.
2 *PPO*, 119.
3 Cavendish also supposes that because ideas have figure and dimension, and because immaterial things do not have figure or dimension, ideas are never immaterial. See *PL*, 177. The discussion of Cavendish's wider materialism occurs in chapter two.
4 *PL*, 179. See also *OEP*, "Further Observations Upon Experimental Philosophy," 35, where Cavendish says that reason is just "refined imagination."
5 David Hume, *A Treatise on Human Nature*, I.ii.4, 45.
6 Ibid., 51.
7 See for example Descartes' claim in *Second Replies* that the highest level of certainty is secured through perceptions that do not involve the senses or imagination, but the intellect alone (CSM2: 104).
8 *PPO*, 119.
9 See for example John Locke, *An Essay Concerning Human Understanding*, II.xi.9, 159; George Berkeley, "Introduction," sections 6–24, *A Treatise Concerning the Principles of Human Knowledge*, 75–88.

10 See also Baruch Spinoza, *Short Treatise on God, Man, and His Well-Being*, 62–63; and Malebranche, *Dialogues on Metaphysics and on Religion*, 3–5, 13–18.
11 Descartes, The Second Meditation, CSM2: 20–21.
12 *Second Replies*, CSM2: 94; *Fifth Replies*, CSM2: 64.
13 The Second Meditation, CSM2: 20–21.
14 Pierre Gassendi, *Fifth Objections*, CSM2: 229. For the Cavendish reference, see again the passage at *PPO*, 119.
15 See for example Shapiro (2014); and Dreyfus (1991), chapters one–three.
16 Note that this would be to agree with Descartes that ideas have non-imagistic components, but Descartes would not explain the non-imagistic components of the non-sensory ideas of God, mind, body, math, and geometry in terms of embodied know-how.
17 See for example Putnam's famous argument in Putnam (1981), chapter one.
18 David Hume, *An Enquiry Concerning Human Understanding*, section VII, 134–143.
19 Ibid., 143–147.
20 Cavendish spends very little time defending this view, but she does subscribe to it. For example, her argument for the view that color is literally in objects is a conceivability argument – any idea that we have of a body is an imagistic picture with at least some color or other, and hence colorless bodies are inconceivable (*OEP*, 51–53). See also *OEP*, 61–62, 70; *GNP* 215–216. See also Moreman (1997), 138–139.
21 See also Clucas (2003), 202–204; and Broad (2007), 496–497.
22 *PPO*, 67–68. See also Hume, *An Enquiry Concerning Human Understanding*, section four, part one, 108–113; Malebranche, *The Search After Truth*, trans. and ed. Thomas M. Lennon and Paul J. Olscamp, Cambridge: Cambridge UP, VI.ii.3, 446–452; and Joesph Glanvill, *The Vanity of Dogmatizing*, ch. XX, 189–193.
23 See also Broad (2007), 503. See also Cavendish, *Sociable Letters*, Letter LXVII, 140–141.
24 *PL*, 507–509. See also *WO*, "Epistle," unnumbered; *WO*, 161,175, 309; *OEP*, 102; *PPO*, "An Epistle to the Reader;" *PPO*, "An Epistle to the Unbeleeving Readers in Natural Philosophy," 51; and *PPO*, 41.
25 *PPO*, 103–104.
26 *PPO*, 87.
27 *WO*, Epistle, unnumbered.
28 *OEP*, 96.
29 This will be in part due to her distrust of microscopes and other instruments, discussed at the end of the current chapter and more fully in chapter five. But see also Sarasohn (1984), 291–293; Lewis (2001), 357; and Shanahan (2008), 368–370.
30 *PL*, 299. See also Shanahan (2014), 141–160.
31 *WO*, 161. See also Locke, *An Essay Concerning Human Understanding*, I.i.5, 45–46; and Hume, *An Enquiry Concerning Human Understanding*, section one, 89–95.
32 *WO*, 177.
33 "A speech concerning studies," *WO*, 308–309. This is a passage in which Cavendish is representing the voice of a student who is frustrated about the track record of philosophical disputation. In some passages there might be a question about whether a voice that Cavendish represents is the voice of Cavendish, and so I will include such a passage as evidence only if there are other passages that reflect the same thinking but that are from her non-fictional work (and so are clearly in the voice of Cavendish herself). See also Boyle (2006), 253–254. Such a passage is quoted immediately below.
34 *OEP*, "To The Reader," unnumbered.
35 Hume, *An Enquiry Concerning Human Understanding*, section two, 99.

36 Hume, *A Treatise of Human Nature*, I.iv.7, 272.
37 *PL*, 527. See also Descartes, The First Meditation, CSM2: 14–15.
38 *PL*, 14.
39 *PL*, 15.
40 There is an intensive discussion of this issue at the end of chapter two and throughout chapter three.
41 *PPO*, 40–41. See also *OEP*, "The Preface to the Ensuing Treatise," unnumbered: "It may be the World will judg it a fault in me, that I oppose so many eminent and ingenious Writers, but I do it not out of a contradicting or wrangling nature, but out of an endeavour to find out truth, or at least the probability of truth, according to that proportion of sense and reason Nature has bestowed upon me…"
42 See for example Descartes, *Fifth Replies*, CSM2: 262. The doctrine that there is nothing in the intellect that was not first in the senses is historically associated with Aristotle.
43 *WO*, 20–21. See also "The Body, Time, and Mind, disputed for Prehemincey," in *NP*, 263; and also *PL*, 173: "the rational can make such figures as the sensitive cannot, by reason the rational has a greater power and subtiler faculty in making variety, then the sensitive; for the sensitive is bound to move with the inanimate, but the rational moves onely in its own parts; for though the sensitive and rational oftentimes cause each other to move, yet they are not of one and the same degree of matter, nor have they the same motions. And this rational Matter is the cause of all Notions, Conceptions, Imaginations, Deliberation, Determination, Memory, and any thing else that belongs to the Mind; …and it can move, as I said, more subtilly, and more variously then the sensitive, and make such figures as the sensitive cannot, without outward examples and objects." There are also passages in Cavendish's fiction that are very similar. See for example "The Several Wits," 90, and "Youth's Glory and Death's Banquet," 157, in *Playes*.
44 See also *WO*, "The Epistle," unnumbered page (between p. 46 and p. 47). She writes, "the senses are the gates that lets in knowledge into the understanding, and fancy into the imagination…."
45 See Hume, *A Treatise on Human Nature*, I.i.1, 1–7; and Hume, *An Enquiry Concerning Human Understanding*, section two, 96–100. For reasons that will become clear, however, Cavendish will resist the word "impression."
46 *PL*, "to his excellency the lord marquis of Newcastle," unnumbered.
47 *OEP*, 5.
48 *GNP* 57, emphasis added.
49 A caveat here is that Cavendish holds that objects are only the partial cause of our sensory perceptions. This caveat will be discussed more fully below.
50 Note that Cavendish does not offer an account of what it is that does the beholding. This is a gap in her larger metaphysics and epistemology, and one on which she is noticeably silent.
51 *GNP*, 90.
52 *PPO*, 113.
53 *GNP*, 92–93.
54 Some commentators have argued that Cavendish holds that our sensory perceptions are often erroneous. See for example Detlefsen (2006), 232–233. I will argue (here but mostly in chapter five) that Cavendish holds that in most cases what is captured in a sensory perception is accurate, but very incomplete.
55 *OEP*, 8–10. There will be some discussion below in chapter five as to why Cavendish would be skeptical of telescopes and other instruments.
56 See Hume, *A Treatise of Human Nature*, I.iv.2, 187; and Thomas Reid, *An Inquiry into the Human Mind on the Principles of Common Sense,* 19–21.

57 *WO*, 179–80. See also *PPO*, 169–170.
58 Note that the later Cartesian philosophers Robert Desgabets and Pierre-Sylvain Régis subscribed to this view. See the discussion in Schmaltz (2002), chapter three.
59 The First Meditation, CSM2: 13–14.
60 Spinoza, *Ethics*, Iax6, 218. See also Descartes, "To Mersenne, 16 October 1639," CSMK, 139.
61 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 35–36.
62 *PL*, 82. See also *PL*, 447–448, and the extended discussion in chapter five below. A tricky issue in the exposition of the philosophy of Cavendish is that her views are systematic and interconnected, and hence it is difficult to explicate any one of them without first explicating them all. Here I am starting with her epistemology and then leaving open some important questions to be treated later.
63 See also O'Neill (2013), 312–313; O'Neill (2001b), xxx–xxxi; Detlefsen (2007), 166–171; and Clucas (2014), 127–129. O'Neill offers compelling evidence that Cavendish was influenced in her view by the work of the ancient stoic philosopher Chrysippus, who held that although the motion of a "patient" body is always triggered by the motion of an "agent" body, motion is never separated from a body, and the motion of a patient body is entirely its own (O'Neill 2013, 317–322). Cavendish likely learned of Chrysippus's view through her reading of Cicero's discussion of it in Thomas Stanley's *A History of Philosophy*, and also through her reading of Van Helmont (O'Neill 2013, 321–322). There are many passages in which Cavendish exclaims that her views are entirely original – for example *PL*, "To His Excellency, the Lord Marquis of Newcastle," unnumbered – but given her views on the interdependence of all bodies in the plenum (which will be discussed in chapter four), she has to be overstating her case in these passages. As we will see, she was certainly influenced by the work of Hobbes, who was no stranger in the Cavendish household. See for example Battigelli (1998), 64–67. The influence is in part from her agreement with Hobbes on particular views, and in part from her rejection of Hobbesian views and her defense of alternative views instead – for example, her rejection of Hobbes' view that bodies move other bodies by pressure or impact (and not by occasioning motions that are already internal to them [*PL*, 20–21]). See Thomas Hobbes, *De Corpore*, 120–132. See also Hutton (1997a), 424. Additional similarities and differences between the views of Cavendish and Hobbes will be considered in chapters two, four, and eight.
64 See also Michaelian (2009), 29–44.
65 *PL*, 420.
66 Note that the discussion of Cavendish's view that all interaction is by contact – including the interaction involved in patterning – appears in chapter two.
67 Detlefsen (2009), 425 and Clucas (2014), 130, worry that Cavendish does not provide an explanation for how a perceiver body patterns or copies an image of a perceived body. In a way they are correct; Cavendish will argue (as we will see in chapter two below) that bodies are ubiquitously intelligent and perceptive and that it is by means of their intelligence and perceptiveness that they detect other bodies, but this might be seen as less an explanation than just a re-statement of the phenomenon that is meant to be explained.
68 Malebranche, *The Search After Truth*, VI.ii.3.
69 Malebranche, *Dialogues on Metaphysics and on Religion*, 14–18.
70 René Descartes, The Third Meditation, CSM2: 33.
71 René Descartes, The Sixth Meditation, CSM2: 55; and "To Princess Elizabeth, 28 June 1643," CSMK 226–229.
72 These reasons in favor of (1) through (3) will be considered in more detail in later chapters.

73 She writes, "if sensitive and rational perceptions, which are sensitive and rational motions, in the body, and in the mind, were made by the pressure of outward objects, pressing the sensitive organs, and so the brain or interior parts of the Body, they would cause such dents and holes therein, as to make them sore and patched in a short time" (*PL*, 22). See also *PL*, 24, 175, 180, 182. As we will see, Cavendish holds that generally speaking material entities tend to work cooperatively and in concert with each other, with the primary exception of human beings.
74 *OEP*, 247–48.
75 *OEP*, 210. See also *OEP*, 226–227.
76 *GNP*, 9.
77 See also Hutton (2003), 161–163.
78 These are some of the metaphysical axioms to which Cavendish will appeal in the construction of her metaphysics. She will identify them as known by reason. See for example *PL*, 445; *PL*, 280; *PL*, 521; 526; and *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 18, 23.
79 *OEP*, "Further Observations Upon Experimental Philosophy," 79.
80 *OEP*, ancient, 65. A worry here is that Cavendish will take issue with scientists like Van Helmont who posit entities that cannot be sensed or pictured. Cavendish can say that all of the ideas that she validates are imagistic pictures, but she cannot escape the charge that she posits entities that cannot be sensed. This worry will be considered further in chapter three.
81 Although as before, the content of such ideas would be no doubt messy and complicated.
82 *Second Replies*, CSM2: 104. Descartes offers other examples of these primitive notions, for example that something cannot come from nothing (CSM2: 97). See also *Principles of Philosophy* I.49, CSM1: 209; and *Principles of Philosophy* I.75, CSM1: 221.
83 *OEP*, "Further Observations Upon Experimental Philosophy," 55.
84 This discussion is in chapters four and five.
85 This problem of course is related to an objection that was raised earlier – about how Cavendish can maintain that we have ideas of logical and mathematical truths, and about how she can make sense of our ability to apply these. Ideas of philosophical axioms – for example, that something cannot come from nothing, or that immaterial motion is impossible – would appear to be similarly abstract.
86 See for example Hume, *A Treatise on Human Nature*, I.ii.6, 66–68.
87 "A Dialogue Betwixt Man, and Nature," *Poems and Fancies*, 58. See also p. 70.
88 *NP*, 149.
89 *PL*, 448.
90 Immanuel Kant, *Critique of Pure Reason*, "Preface to the First Edition," Avii, 7.
91 See Descartes, *Principles of Philosophy* I.53, CSM1: 210–211; Malebranche, *Dialogues on Metaphysics and on Religion*, 6; and Leibniz, *Monadology*, section 17.
92 See for example Nagel (1974) and Jackson (1986).

2

THINKING MATTER

Cavendish offers a number of arguments for the view that generally speaking matter is animated, sophisticated, and intelligent. She generates these arguments from axioms that she takes to be extremely intuitive and compelling. The axioms include that it is impossible for immaterial entities to interact with material entities; that only material things are divisible; that only material things are capable of motion; that entities that behave in an orderly and intelligent manner must be intelligent and perceptive; and that entities (for example bodies) that are created by an infinite, intelligent, and perfect being would be sufficiently sophisticated and impressive that they would be able to think and engage in intelligent activity themselves. A subset of Cavendish's arguments work to support the view that at least some matter thinks, while others are meant to establish that material thinking is ubiquitous and pervasive.

Dualism in the background

Before we address the arguments directly, we might consider some of the background to which they are a response.

One of the very prominent doctrines in the history of philosophy – in Plato, Plotinus, Augustine, Descartes, and others – is the doctrine of substance dualism: that minds and bodies are distinct entities that have nothing in common and that do not depend on each other for their existence.[1] Descartes famously argued that the mind and body of an individual human being are intimately connected,[2] but that they are as different as different can be:

> To say that thoughts are merely movements of the body is as perspicuous as saying that fire is ice, or that white is black; for no two ideas we have are more different than those of black and white, or those of movement and thought.[3]

Descartes held that all substances have a principal attribute in terms of which all of its modes or properties can be understood. If a putative mode of a

substance cannot be understood in terms of the principle attribute of that substance – for example, if an idea cannot be understood in terms of the attribute of bodily extension – then the mode is a mode of a different substance (and one that has a different principal attribute).[4] An objection that Descartes had to field almost immediately was that if minds and bodies are so completely different, there is no way to make sense of their union or interaction. Some of Descartes' contemporaries worried more specifically that because minds and bodies come into contact with each other, minds must have surfaces, or at the very least they must have points of contact at which interaction could take place. For example, Princess Elisabeth of Bohemia writes,

> How can the soul of a man determine the spirits of his body so as to produce voluntary actions (given that the soul is only a thinking substance)? For it seems that all determination of movement is made by the pushing of a thing moved, either that it is pushed by the thing that moves it or it is affected by the quality or shape of the surface of that thing. For the first two conditions, touching is necessary, for the third extension. For touching, you exclude entirely the notion that you have of the soul; extension seems to me incompatible with an immaterial thing.[5]

Pierre Gassendi raises a similar objection:

> Again, must not every union occur by means of close contact? And, as I asked before, how can contact occur without a body? How can something corporeal take hold of something incorporeal so as to keep it joined to itself?[6]

Elisabeth is concerned that the doctrine of substance dualism is too strong – it posits that mind and body have so little in common that they would never be able to stand in any causal relations. Gassendi focuses in particular on Descartes' thesis that mind and body form an intimate union – as Descartes puts it in the Sixth Meditation, a union that is more than just an aggregate, and that is tighter and more organic than the connection between (for example) a sailor and a ship that he directs.[7] Descartes does reply to the objections of Elisabeth and Gassendi, but he does not provide much illumination:

> It does not seem to me that the human mind is capable of forming a very distinct conception of both the distinction between the soul and the body and their union; for to do this it is necessary to conceive them as a single thing and at the same time to conceive them as two things; and this is absurd. …Everyone feels that he is a single person with body and thought so related by nature that thought can move the body and feel the things which happen to it.[8]

> Even though the mind is united to the whole body, it does not follow that it is extended throughout the body, since it is not in its nature to be extended, but only to think. …Finally, it is not necessary for the mind itself to be a body, although it has the power of moving the body.[9]

We do not know for sure Descartes' resolution of the problem of mind–body union and interaction. Perhaps he is resting his final view on a version of the doctrine of divine incomprehensibility – according to which God has created the universe to have features that so far as we can tell are contradictory.[10] Or perhaps he is so cavalier in dismissing the objections of Elisabeth and Gassendi because he is taking for granted a principle of his metaphysics that he supposes to be obvious upon reflection – the principle that what it is for God to preserve creatures in existence from moment to moment is for God to constantly create them.[11] If so, Descartes has to say that there are multiple levels at which to describe reality and that, according to the deepest and most accurate description, minds and bodies do not have any influence on each other at all. Instead, apparent interactions are to be explained in terms of the moment-to-moment re-creation of things in their new states or locations.

Materialism and mind–body interaction

Cavendish supposes that the fact of mind–body interaction is obvious and that it provides good reason for thinking that minds and bodies are of the same common nature. All that we need to complete the argument is the premise that material things can interact with material things only:

> Neither can I imagine, that an Immaterial substance, being without body, can have such a great strength; as to grapple with gross, heavy, dull, and dead Matter.[12]
>
> Immaterial and Material cannot obstruct each other.[13]
>
> Spirit and Body are things of contrary Natures. In fine, I cannot conceive, how a Spirit should fill up a place or space, having no body, nor how it can have the effects of a body, being none it self; for the effects flow from the cause; and as the cause is, so are its effects…[14]
>
> Neither is it possible, that incorporeal Beings, should be principles of Nature, because there is as much difference between corporeal, and incorporeal, as there is between Matter, and no Matter; but how no Matter can be a principle of matterial effects, is not conceivable.[15]
>
> for though they are thought to be powerful beings, yet being not corporeal substances, I cannot imagine wherein their power should consist; for Nothing can do nothing.[16]

Cavendish is very confident in the premises that she puts forward in defense of philosophical conclusions, and takes them to be intuitive and obvious, but she also allows that philosophers (herself included) might be mistaken about the claims that they find most evident. In some passages her claims about mind–body interaction are a bit more circumspect:

> it is, in my opinion, more probable, that one material should act upon another material, or one immaterial upon another immaterial, then that an immaterial should act upon a material or corporeal.[17]

Here Cavendish identifies as probable the premise that material things interact with material things only. All of the premises that she employs in her metaphysical arguments are merely probable, she would concede, at least in the sense that we might be mistaken about them no matter how intuitive and obvious we find them to be. She supposes that it is important to do the best that we can to converge on an accurate view of the nature and structure of reality, and that we summon all of the resources that we have at our disposal.

Cavendish assumes that material things interact with material things only and that interaction is always by contact. That is to say, there is no action at a distance. There might be *apparent* instances of action at a distance, but if interaction is always by contact, any case in which two distant bodies interact is a case in which there are contiguous bodies in between. She considers magnetic attraction, for example, and other phenomena that are similar:

> For in some subjects, Sympathy requires a certain distance; as for example, in Iron and the Loadstone; for if the Iron be too far off, the Loadstone cannot exercise its power, when as in other subjects, there is no need of any such certain distance, as betwixt the Needle and the North-pole, as also the Weapon-salve; for the Needle will turn it self towards the North, whether it be near or far off from the North-pole; and so, be the Weapon which inflicted the wound, never so far from the wounded Person, as they say, yet it will nevertheless do its effect: But yet there must withal be some conjunction with the blood… [T]he same may be said of all Infectious and catching Diseases amongst Animals, where the Infection, be it the Infected Air, or a Poysonous Vapour, or any thing else, must needs touch the body, and enter either through the Mouth, or Nostrils, or Ears, or Pores of the body; for though the like Antipathies of Infectious Diseases, as of the Plague, may be in several places far distant and remote from each other at one and the same time, yet they cannot infect particular Creatures, or Animals, without coming near, or without the sense of Touch…[18]

Cavendish adds in another passage that when a body acts on a second body that is at a distance, "there must be a due approach between the Agent and

the Patient, or otherwise the effect will hardly follow."[19] She is assuming that all interaction is by contact and that the only sort of thing that is able to have a point of contact with a body, or to touch a body, is another body. If an experiment or other evidence suggests that there is action without contact, Cavendish will reply that we need to look more carefully for variables that we did not notice the first time around.[20]

Cavendish thinks that mind–body interaction occurs by contact and that instances of mind–body interaction abound. For example:

> Cordials do cheer, and do revive the Soul or Mind, making the thoughts more cheerful and pleasing.[21]

Here she is alluding to the sort of case in which a person's thinking or judgment appears to be affected by their consumption of a drug. As many would be willing to testify, a proposal or proposition can show up as a great idea to a person who is drunk, but show up for the bad idea that it is to a person who is sober. Cavendish points to other examples as well:

> But this is to be noted, That there may be Natural and Accidental Fools, by some extraordinary Frights, or by extraordinary Sickness, or through the defects of Old Age. As for the Errors of Production, they are incurable; as also, those of Old Age; the First being an Error in the very Foundation, and the other a Decay of the whole Frame of the Building…[22]

Here she is referencing the way in which a person's cognitive abilities can be impaired as a result of the deterioration or decay of their nervous system.[23] In the current day, we are in a position to name conditions like Alzheimer's Disease, but of course the conditions themselves have a longer history.[24] Cavendish will worry that the more that we assume that minds are immaterial and that cognitive impairment is due to non-physical causes – perhaps devils or ghosts – the more we will be liable to random groping in our search for a treatment or cure.[25]

Cavendish emphasizes the inter-dependence of mind and body in some of her fictional writings as well. She represents the connection between physical activity and mental activity as tight indeed:

> Madamoiselle Volante: If once your brain begins to be dissie, your senses will stagger, and your reason will fall down from its feat, and when the reason is displaced, and the wit is distemper'd, the mind become mad…[26]

Cavendish supposes that examples like this are very common, and we might think of others ourselves – the effect of sleep, or a lack of sleep, on a person's

mood, and the similar influence of climate, stress, or hunger. In the event that we are skeptical about such examples, Cavendish will point to the day-to-day and almost moment-to-moment phenomenon of sensory perception: bodies are almost incessantly affecting our sense organs and contributing to the production of ideas, and the simplest and most obvious explanation if bodies can only interact with bodies is that minds are material.[27] Alternative explanations might include that God produces sensory perceptions in us directly (in Malebranche, and perhaps in Descartes), or (later in Leibniz) that each mind produces its perceptions on its own.[28] Cavendish is arguing that on any view that allows that bodies play an active role in the production of our sensory perceptions, the most plausible thing to say is that thinking is material and that minds are thinking bodies.

No matter how many instances of mind–body interaction Cavendish posits, an objection of course is that she never demonstrates that there are instances of mind–body interaction, but just supposes that there are. Again, some of her contemporaries contend that minds and bodies only seem to interact, and an objection to Cavendish is that all apparent instances of causal interaction are instances only of correlation. She nowhere addresses this objection explicitly, but given some of her other systematic positions, she would presumably respond that none of us can seriously believe that minds and bodies do not interact, and so the objection is at best feigned. As we saw in chapter one, Cavendish supposes that we cannot help but believe that bodies exist and are the objects of our ideas, and presumably she would also insist that we cannot help but believe that our minds and bodies sometimes interact. She would argue in addition that human minds are not able to conceive of the premises that her opponents offer in support of the view that minds and bodies do not interact. For example, Malebranche and Leibniz appeal to premises that specify the nature of an immaterial and infinitely perfect being, but given her doctrine of ideas Cavendish has to say that we cannot have any idea of such an entity. She writes for example,

> But as for Immaterial, no mind can conceive that, for it cannot put it self into nothing, although it can dilate and rarifie it self to an higher degree, but must stay within the circle of natural bodies…[29]
>
> a finite Creature can have no Idea or conception of Infinite.[30]
>
> the minde, which is the matter creates thoughts, which thoughts, are the figures of the minde; for when we hear of a deity, we say in words it is an incorporeal thing; but we cannot conceive it so in thought, we say we do…[31]

In chapter three there will be an extended discussion of Cavendish's view that finite minds can have no idea of God and that premises that purport to describe God's nature have no place in philosophical arguments. For now it is

important to note that she takes mind–body interaction at face value and supposes that the countervailing reasons that are cited by some of her contemporaries in fact have no force. Any other putative evidence against the existence of mind–body interaction is also suspect, she would say: it runs counter to the obvious and intuitive datum that minds and bodies interact. Cavendish might add in our own time that most of the results that we accept in the sciences are grounded in (tight) correlations, but we do not reject *these* as merely correlational. She would agree with the twentieth-century philosopher Bertrand Russell:

> All the evidence goes to show that what we regard as our mental life is bound up with brain structure and organized bodily energy. Therefore it is rational to suppose that mental life ceases when bodily life ceases. The argument is only one of probability, but it is as strong as those upon which most scientific conclusions are based.[32]

If we say that there is only a correlation between our mental states and our physical states – for example, the administration of anesthesia and the turning off of consciousness – we would have to say that similar correlations do not involve causation. Cavendish does not expect that we will achieve Cartesian certainty on this or any other matter, but she is supposing that it is extremely plausible that minds and bodies interact, and she is working to unpack the implications.

Another objection to Cavendish's argument from mind–body interaction is that if human cognition is so limited, and if bodies often behave in ways that are magical and mysterious, perhaps it is false that material things are able to interact with material things only. If the workings of nature are so mysterious, then perhaps there *is* action at a distance, for example, even though that can seem incomprehensible to us. Cavendish in fact has a compelling response to this objection. She can argue that the work of the philosopher and scientist is to synthesize intuitive rational axioms with meticulous sensory observations and assemble them into a larger picture of reality. If we have done that, and we find that in the end there is some aspect of reality that is mysterious, then that is just how reality turns out to be.[33] However, we should not *begin* our investigation with principles that render reality unintelligible. We should begin instead with axioms that are intuitive and compelling. If in the end some part of reality turns out to be unintelligible in the light of *these*, then as best we can tell, that is how things stand. Cavendish would be proceeding along the lines of Descartes in offering this response to the objection. He appeals to fundamental and not-further-supported principles to generate a view of reality; he then insists that if some of our systematically deduced conclusions turn out to be surprising or odd, truth is truth, and finite minds would not be expected to understand the detail or interwoven-ness of all of God's creation.[34] Cavendish would simply reiterate here that finite minds are finite.

Cavendish appeals to the phenomenon of mind–body interaction to argue that minds are material. She also appeals to the phenomenon to argue that

although immaterial entities might exist, they are not things about which we can theorize or speak or think. We saw earlier her remark that "as for Immaterial, no mind can conceive that" (*PL*, 69). She writes in addition,

> there may be supernatural spiritual beings or substances in Nature, without any hinderance to Matter or corporeal Nature. The same I may say of the natural material, and the divine and supernatural Soul; for though the divine Soul is in a natural body, and both their powers and actions be different, yet they cause no ruine or disturbance to each other… Neither can, in my opinion, Incorporeal Creatures be clearly conceived by Corporeals, although they may really exist and subsist in Nature; onely, as I said before, it is well to be considered, that there is a difference betwixt being in Nature, and being a part of Nature; for bodiless things, and so spiritual substances, although they may exist in Nature, yet they are not natural, nor parts of Nature, but supernatural, Nature being meerly corporeal, and Matter the ground of Nature; and all that is not built upon this material ground, is nothing in Nature.[35]

Here Cavendish is again applying the axiom that material things can interact with material things only. Immaterial things are not things that our sense organs can detect, and they are not things that our imagistic ideas can copy. Anything that we do encounter – or succeed in conceiving or talking about – is a body:

> I wonder wise men will attribute bodily affections to immaterial beings, when as yet they are not able to conceive or comprehend them; by which they confound and disturb Nature, which knows of no Immaterials, but her Essence is Matter.[36]
>
> spirits can have no description, because no dimension.[37]

Cavendish does not want to deny that immaterial things exist, but she does want to insist that immaterial things are not what we are conceiving or talking about when we do philosophy. For example, they are not what we are talking about when we talk about our minds. Those instead are bodies, and bodies that think. Cavendish allows that immaterial things might exist, and indeed she wants to allow that there might be immaterial minds that accompany our bodies in the here and now. It is not clear how such minds would be interfaced with bodies, but as with all things immaterial that is an issue on which she will remain silent.

The impossibility of immaterial motion

Cavendish takes as axiomatic that material things are able to interact with material things only. She also takes as axiomatic the premise that only

material things are capable of motion. She appeals to the premise to argue that since our mental life accompanies our body when we travel or change locations, our minds must be material as well. They are collections of imagistic pictures that are composed of smaller bodies and that have the wherewithal to behave skillfully and intelligently.

First, Cavendish offers the premise that only material things are capable of motion. She takes the premise to be as intuitive and obvious as premises come, and she repeats it throughout her corpus:

> Though Matter might be without Motion, yet Motion cannot be without matter; for it is impossible (in my opinion) that there should be an Immaterial Motion in Nature.[38]
>
> But put an Impossible proposition, as that there is an Immaterial motion…[39]
>
> there is no such thing as an immaterial Motion…[40]
>
> I exclude all bare or immaterial Motion, which expression is altogether against sense and reason.[41]
>
> Neither is there any such thing as an Incorporeal motion.[42]
>
> immaterial spirits, being supernatural, cannot have natural attributes or actions, such as is corporeal, natural motion.[43]
>
> > And as we cannot conceive nor perceive motion without body; so neither can we conceive those mentioned proprieties without body, or body without them, they being nothing else but the corporeal, figurative actions of Nature.[44]
> >
> > God is a Spirit, and Immovable; and if created natural Immaterials participate of that Nature, as they do of the Name, then they must be Immovable also.[45]

Cavendish articulates the premise that only material things admit of motion and then applies it to the datum that our minds accompany us when we travel from place to place. She writes,

> > I cannot conceive how it is possible, that… the Soul, being incorporeal, can walk in the air, like a body; for incorporeal beings cannot have corporeal actions, no more then corporeal beings can have the actions of incorporeals.[46]

Cavendish takes it to be obvious that minds move from place to place and hence are not incorporeal. She supposes that minds that are united to bodies are literally housed in those bodies:

> I would ask those, that say the Brain has neither sense, reason, nor self-motion, and therefore no Perception; but that all proceeds from an Immaterial Principle, and an Incorporeal Spirit, distinct from the body, which moveth and actuates corporeal matter; I would fain ask them, I say, where their Immaterial Ideas reside, in what part or place of the Body? …[I]f it [the spirit] have no dimension, how can it be confined in a material body?[47]
>
> as for Place, the mind is inclosed in the body…[48]

For Cavendish, "[p]lace [is] an attribute that belongs onely to a Body,"[49] and anything that changes location or moves from place to place is a body as well. She supposes that we are being serious when we say that thinking takes place in the head, or that there is not a lot going on upstairs in the case of a person who is foolish or slow. To the extent to which our language is getting at something in these instances, and Cavendish thinks (and thinks that *we* think) that it is, our thoughts must have a literal location, however difficult it might be to specify. She supposes that it is obvious that when a person travels from one place to another, the person's mind changes location as well. The person's thinking was taking place in the initial location, and then at the final location, and also in between.[50]

Cavendish supposes that ideas move with us when we travel, and she also supposes that they move throughout our brain and nervous system. In a section of *Grounds of Natural Philosophy* entitled "Of the Motions of some Parts of the Mind," she writes,

> WHen the Rational Figurative Corporeal Motions of an Human Creature, take no notice of Forrein Objects, Man nameth that, Musing, or Contemplating. And, when the Rational Parts repeat some former Actions, Man names that, Remembrances. But, when those Parts alter those Repetitions, Man names that, Forgetfulness. And, when those Rational Parts move, according to a present Object, Man names it, Memory.[51]

In *Philosophical and Physical Opinions*, she adds:

> The rational *spirits* by moving several ways, may make several kindes of knowledge…[52]

O pardon Lord, for what, I now hear speak
Upon a guesse, my knowledge is but weak;
But thou hast made such creatures as mankinde,
And gav'st them somthing which we cal a mind,
Alwayes in motion, never quiet lies,

> Untill the figure, of his body dies,
>
> His several thoughts, which several motions are
>
> Do raise up love, hope, joyes, doubts and feare.[53]

Here Cavendish is motivated in part by her view that an (imagistic) idea is composed of bodies that maneuver into a configuration that depicts the body that the idea represents. We might entertain an idea of a horse, and a separate idea of a horn, and then an idea of a unicorn; Cavendish supposes that what we witness in the case of a creative idea coming together is bodies that have figure, and bodies that move. She is also trying to corner her opponent into explaining the sense in which spatial and motive properties are to be attributed to minds if they are not material. Either we should not attribute such properties to minds, she thinks, or if we do we should recognize that minds are material. As we have seen, she allows that there might be immaterial souls that have certain analogical features, but we cannot conceive of these souls or features, and we should refrain from speaking of what is beyond our cognitive grasp:

> Wherefore it is not probable, this Divine Soul, being not subject to Nature, should be an architect of the body, as having an higher and more divine imployment, *viz.* to fix her self on her Creator, and being indued with supernatural faculties, and residing in the body in a supernatural manner; all which I leave to the Church… Wherefore it is inconvenient to mix supernatural Spirits with Air, Fire, Light, Heat, Cold, &c. and to apply corporeal actions and qualities to them; and the Divine Soul, with the Brain, Blood, Flesh, Animal Spirits, Muscles, Nerves, Bones, &c. of Man; all which makes a confusion betwixt the Mind or Natural Soul of Man, and the Supernatural and Divine Soul inspired into him by God; for both their faculties and proprieties are different, and so are their effects, as proceeding from so different causes.[54]

We might have immaterial souls, Cavendish wants to allow, and orthodoxy dictates that we believe that we have immaterial souls, but these are not the entities that steer and direct our bodies or that form imagistic ideas of the entities that surround us. Those entities are material bodies. We might try to elucidate the nature of the immaterial variety of soul, but if we do we have no choice but to use language that applies just to bodies: our immaterial souls are a kind of air or fire, as Descartes says in the Second Meditation;[55] or, says Leibniz, the properties of immaterial souls are to be understood in terms of windows, dizziness, ponds, and spatial perspective.[56] Cavendish agrees that such language helps to elucidate the details of our embodied mental life, but only because minds are material.

An objection to Cavendish's argument from motion comes from Henry More. One of the things that is so interesting about More is that he grants the premise that minds partake of motion – he takes it to be obvious as well – but he does not think that the conclusion follows that minds are material. For More, minds are immaterial, but they admit of location and motion, and like other immaterials they are extended:

> I will evince with Mathematical certainty, That God and our Soul, and all other Immaterial Beings, are in some sort extended. …[T]he operations wherewith the Soul acts on the Body, are in the Body; and that Power or Divine Vertue wherewith God acts on the matter and moves it, is present in every part of the Matter. Whence it is easily gathered, That the operation of the Soul and the moving Power of God is somewhere, *viz.* in the *Body*, and in the *Matter*. …Wherefore if the Operation of the Soul is somewhere, the Soul is somewhere, viz. there where the Operation is. And if the Power of God be somewhere, God is somewhere, namely, there where the Divine Power is; *He* in every part of the *Matter*, the *Soul* in the humane *Body*. [57]

Here More is conceding many of the points that Princess Elisabeth and Pierre Gassendi make in objecting to Descartes, but he thinks that they do not in fact amount to objections. A thing can be immaterial *and* have a location: for example, God is present in all spaces and all parts of matter in which He is active, and so God is extended, but of course He is the paradigm case of an immaterial. More adds: finite minds must also be present at the location at which they act, and so these have location as well. More holds that material substances and immaterial substances are *both* extended. The central difference between the two is that "the *Immediate Properties* of a *Spirit* or Immateriall Substance are *Penetrability* and *Indiscerpibility*,"[58] and spirits are "intrinsically endued with Life and the faculty of Motion."[59] Spirits are indiscerpible, which is to say that although they have components or parts, their parts are inseparable. Spirits also are penetrable, which is to say that other extended beings can enter into and occupy their space. Spirits are indiscerpible, but they are not impenetrable. More motivates the two notions here:

> [it is] as conceivable or imaginable, that one *Substance* of its own nature may invincibly *hold its parts together*, so that they cannot be disunited or dissevered, as that another may *keep out* so stoutly and irresistibly another Substance from entering into the same space or place with it self.[60]

Spirits have parts – individual ideas and other faculties – but these parts cannot be carved off from each other. Bodies by contrast are always divisible,

and in addition a given body can never occupy the place of another body. However, the occupation of an extended body by an extended spirit is quite common: God is present in all matter, and a mind inhabits the same space as the body with which it is united. To motivate his thinking further, More posits that material things always have three dimensions, and that generally speaking all things have three dimensions, but that the extension of an immaterial substance sometimes takes a different form:

> Altho' all *Material* things, consider'd in themselves, have *three* Dimensions; yet there must be admitted in Nature a *Fourth*, which, fitly enough, I think, may be called *Essential Spissitude*; which tho' it most properly appertains to those Spirits which can contract their Extension into a less *Ubi*, yet by a less Analogie it may be referred also to Spirits penetrating as well the *Matter* as mutually *one another*, so that wherever there are more Essences than one, or more of the same Essence in the same *Ubi* than is adequate to the Amplitude thereof, there this *Fourth* Dimension is to be acknowledged, which we call *Essential Spissitude*. [61]

Things are starting to get very complicated in this passage. "Ubi" is a Latin term for "where," and More uses it to designate an entity's location or place. Spirits, perhaps because they are less dense, have an ability to contract their ubi to the point that they inhabit a fourth dimension. They sometimes do this when they are on their own, and they also do it when they inhabit the extension of a material body. All substances have an ubi, but the ubi of a substance is not always in three-dimensional space. The ubi of a *material substance* is always in three-dimensional space, and no two substances can ever be in the same three-dimensional location at once. Bodies are in that sense impenetrable, but spirits are not.

More is trying to save what he takes to be the phenomena, and what Cavendish would agree are the phenomena as well. Both regard as evident that minds partake of motion and always have a location, and that minds inhabit bodies. But Cavendish would no doubt object to More that the notion of an essential spissitude is *ad hoc* and that their two views differ in name only. Both agree that spirits and bodies move, have location, and are extended, and that they are often united to bodies with which they interact. Cavendish would want to ask why More nonetheless wants to identify spirits as immaterial. One reason that More suggests is that God is the paradigm of an immaterial being, and that God is also the paradigm of a spirit, but Cavendish would worry that God is transcendent and that the extended being that More is describing is not God at all. She would also argue that there is no need to go to all the trouble of making a distinction between mind and body, and positing the notion of an essential spissitude, if we just allowed that bodies think. More would respond that in fact there is a need: the "immediate properties"

of a substance are such that there is no further reason that can be given for them, and divisibility and impenetrability are immediate properties of body but not spirit. He writes,

> These are *Immediate Properties of Matter*; but why they should be there, rather then in any other Subject, no man can pretend to give, or with any credit aske, the reason. For *Immediate Attributes* are indemonstrable, otherwise they would not be *Immediate*.[62]

The point that the most basic properties or features of a substance would have no further explanation is fair enough, but Cavendish would ask why it is that material substances cannot have as basic features size, shape, motion, *and* intelligence. If there is no further explanation for why a substance has the immediate properties that it does, she would ask why these could not all be immediate properties together – unless there is a constraint on reality such that certain properties cannot be immediate properties of the same single substance. More does allow that material and immaterial substances can be conjoined, and so it is not clear what would entitle him to assert that size, shape, motion, and intelligence cannot be conjoined at the level of immediate properties. More does *define* matter as substance that is extended, impenetrable, divisible, and lifeless, and mind as substance that is extended, indiscerpible, penetrable, animate, and perceptive.[63] However, that is not to say that substances that are extended and divisible answer to his definition of matter.[64] There might be nothing that meets that definition, and instead there might exist substances that are extended, divisible, but also animate, perceptive, and intelligent.

The divisibility of mind

At this point in the back and forth, More might focus the debate back on the feature of divisibility in particular. Bodies are divisible,[65] he would insist, but spirits are not. He writes,

> I deny that in a thing that is *absolutely One* and *Simple* as a Spirit is, there are any *Physical* parts, or parts properly so called, but that they are only falsely feigned and fancied in it, by the impure Imagination. But that the mind it self being sufficiently defecated and purged from the impure Dregs of Fancy, although from some intrinsical respect she may consider a Spirit as having Parts, yet at the very same time does she in herself, with close attention, observe and note, that such an *Extension* of it self has none; and therefore whenas it has no Parts, it is plain it has no *substantial* parts, nor *independent* of one another, nor subsistent of themselves.[66]

Here More is certainly in good company. Plato had argued in *Phaedo* that one of the distinguishing features of bodies is that they can be divided into parts, whereas souls are invisible, indivisible, and divine.[67] More also calls to mind the famous argument that Descartes offers in the Sixth Meditation:

> there is a great difference between the mind and the body, inasmuch as the body is by its very nature always divisible, while the mind is utterly indivisible. For when I consider the mind, or myself insofar as I am merely a thinking thing, I am unable to distinguish any parts within myself; I understand myself to be something quite single and complete. Although the whole mind seems to be united to the whole body, I recognize that if a foot or arm or any other part of the body is cut off, nothing has thereby been taken away from the mind. As for the faculties of willing, of understanding, of sensory perception and so on, these cannot be termed parts of the mind, since it is one and the same mind that wills, and understands and has sensory perceptions. By contrast, there is no corporeal or extended thing that I can think of which in my thought I cannot easily divide into parts; and this very fact makes me understand that it is divisible. This one argument would be enough to show me that the mind is completely different from the body, even if I did not know as much from other considerations.[68]

Descartes agrees with More that there is no literal sense in which minds are divisible. For More, minds are extended, but any attempt to divide them would be met with a slickness and agility that resists capture into parts. For Descartes, minds are not extended at all. Cavendish herself is contending that minds *are* divisible.[69] To Descartes' assertion that there are different faculties of the mind but that the mind does not have parts, Cavendish responds:

> if the Mind or Soul be Individable, then I would fain know, how Understanding, Imagination, Conception, Memory, Remembrance, and the like, can be in the mind?[70]

Perhaps Descartes is right that any given act of understanding is inseparable from, and cannot occur without, some act of conceiving and some act of affirming or willing, but it would appear at least that *individual* acts of understanding can be separated from a mind. We might fail to understand something that we understood once before, or if the brain is damaged in the right sort of way, we might undergo a loss of memory that is permanent. Here Cavendish and the dualistically minded Descartes and More would seem to be at loggerheads. Cavendish would insist that Descartes (and More) are wrong that "if a foot or arm *or any other part of the body* is cut off, nothing has thereby been taken away from the mind" (emphasis added). She would

insist that the thinking that takes place in a human mind can be more or less leveled if a person's nervous system deteriorates in the right way. One of the reasons that More wants to secure a distinction between immaterial substances and material substances is that he supposes that at least some immaterial substances move on to an afterlife.[71] For More, thinking persists after the decomposition of the brain and continues to exist for eternity. Cavendish will argue that our individual minds do not continue to exist for eternity and that at best there are clusters of ideas that remain together and that constitute only a small part of us.[72]

Intelligence and mentality as a precondition of organization and order

Cavendish offers a number of arguments for the view that matter thinks – from the interaction of minds and bodies; from the motion of minds; from their division and decomposition. The arguments that we have considered thus far do not entail that thinking matter is ubiquitous, but just that some matter thinks. She seeks to yield the more expansive thesis as well. Her central argument is that the bodies that surround us behave in an orderly manner and that they would not be able to exhibit order and organization unless they were sophisticated, cognitive, and intelligent. Here Cavendish is taking on More most directly – who agrees that natural bodies exhibit order and intelligence, but who argues that they are only able to do so because they are affixed to immaterial minds that guide them along.[73] As we have seen, More takes bodies to be relatively inconsequential entities: they are inert and unimpressive, and if we showed him a body that appeared to exhibit order on its own, he would insist that we have not encountered a body but a kind of mind–body composite. On More's view, the universe contains not only bodies, but also "the spirit of nature." He writes,

> *The Spirit of Nature* therefore, according to that notion I have of it, *is, a substance incorporeal, but without Sense and Animadversion, pervading the whole Matter of the Universe, and exercising a Plastical power therein according to the sundry dispositions and occasions in the parts it works upon, raising such* Phaenomena *in the World, by directing the parts of the Matter and their Motion, as cannot be resolved into mere Mechanical powers.*[74]

More has in mind the whole range of orderly patterns that are exhibited in nature. One is the orderly descent of bodies – in which bodies of very different sizes and shapes still fall at the same rate. He argues that this can only take place if minds are present to monitor the behavior of the falling bodies and to keep them in line.[75] Minds must also be at work in activity that is more complicated still:

> Now if the pure Mechanick powers in *Matter* and Corporeal motion will not amount to so simple a *Phaenomena* as the falling of a stone to the Earth, how shall we hope they will be the adequate cause of sundry sorts of *Plants* and other things, that have farre more artifice and curiosity then the direct descent of a stone to the ground?[76]

Here More is pointing to the order and organization that we encounter in the natural world and arguing that it is only possible on the assumption that bodies are guided by intelligence. Bodies exhibit order and organization across the board, More thinks, and so there must be something immaterial that is infused in them – in something like the way that rule- and goal-directed human beings are infused with a mind.

Cavendish agrees with More that intelligence and cognition are a pre-condition for orderly and organized behavior, but she supposes that bodies are intelligent on their own. She responds to More:

> But concerning the Soul of Nature, I have sufficiently declared my opinion thereof in other places; to wit, that it is impossible she should be immaterial; for if the body of Nature be dividable and composable, the soul must be so too; but that which is not material, cannot admit of division, nor composition; wherefore the soul cannot be immaterial, or else some parts of the world would be destitute of a soul, which might deserve it as well as the rest, which would argue a partiality in the Creator.[77]
>
> But your *Author* says, That Immaterial Spirits are endued with Sense and Reason; I say, My sensitive and rational corporeal Matter is Sense and Reason it self, and is the Architect or Creator of all figures of Natural matter…[78]

For Cavendish, there is no need to posit the existence of an additional entity to account for the order and organization and apparent purposiveness that are exhibited in nature, especially when the introduction of such an entity presents more problems than it solves. There is the question about how an immaterial spirit would be able to come into contact with the body that it guides, for example, and about how the two would move along together, and about why we would identify a spirit as immaterial in the first place. She writes,

> But to return to Immaterial Spirits, that they should rule and govern infinite corporeal matter, like so many demy-Gods, by a dilating nod, and a contracting frown, and cause so many kinds and sorts of Corporeal Figures to arise, being Incorporeal themselves, is Impossible for me to conceive…[79]

> But, *Madam,* I dare say, I could bring more reason and sense to prove, that sensitive and rational Matter is fuller of activity, and has more variety of motion, and can change its own parts of self-moving Matter more suddenly, and into more exterior figures, then Immaterial Spirits can do upon natural Matter.[80]

Cavendish has offered independent arguments for the view that some matter thinks. If these are successful, thinking matter is not an exception or anomaly, and there is no reason to look elsewhere for a cause of the organization and teleology that are exhibited in nature,[81] and no reason to identify it as immaterial. Bodies have to be intelligent to exhibit the order that they do, Cavendish is supposing, and so they are.

In arguing that bodies bring about their own order, Cavendish is revealing that she does not hold that thinking and intelligence are in some way a byproduct of the interactions of bodies.[82] If a property or feature were somehow to emerge from the interactions of bodies, those bodies would have to exhibit order and organization to begin with, which is to say that they would need to be intelligent and perceptive already:

> That it is not any of these mentioned things that makes life and knowledg, but life and knowledg is the cause of them, which life and knowledg is animate matter, and is in all parts of all Creatures…[83]

> I shall never be able to conceive, how senseless and irrational Atomes can produce sense and reason, or a sensible and rational body, such as the soul is, although he affirms it to be possible: 'Tis true, different effects may proceed from one cause or principle; but there is no principle, which is senseless, can produce sensitive effects; nor no rational effects can flow from an irrational cause…[84]

Cavendish supposes that matter would not be able to combine into an orderly arrangement that brings about sense or reason unless it was already guided by mentality, and so she denies that thought is the product or result of the interactions of bodies. Part of what she wants to emphasize here is that thinking is a basic feature of matter – what More would identify as an immediate property.[85] Cavendish is not arguing that natural bodies are insufficiently *magical* to bring about thought; that would have her speaking against her larger doctrine of explanation. She is not repeating the argument in Leibniz:

> [W]e must confess that the perception, and what depends on it, is inexplicable in terms of mechanical reasons, that is, through shapes and motions. If we imagine that there is a machine whose structure makes it think, sense, and have perceptions, we could conceive it enlarged, keeping the same proportions, so that we could enter into

> it, as one enters into a mill. Assuming that, when inspecting its interior, we will find only parts that push one another, and we will never find anything to explain a perception.[86]

Cavendish agrees with Leibniz that there is no way to make sense of how unthinking bodies could combine together and form a composite that thinks and perceives, but Leibniz takes the further step of arguing that since bodies are unthinking, minds are immaterial.[87] Cavendish and Leibniz no doubt agree that thinking and perception are not the byproduct of the interactions of bodies, but her reason for thinking this is that bodies would not be able to so organize unless they were intelligent and thoughtful from the start. Bodies are capable of achievements that are magical and extraordinary, she thinks, but only because mentality is already among their immediate properties.

Cavendish and More open their eyes and see the same world of vitality, order, and organization. What More identifies as "the spirit of nature," Cavendish regards as the mentality that is inherent in bodies themselves. She writes,

> the self-moving part of matter is the working part of nature, which is wise, and knows how to move and form every creature without instruction…[88]

> neither can order, method and harmony proceed from chance or confusion…[89]

> IF Nature were not Self-knowing, Self-living, and also Perceptive, she would run into Confusion: for, there could be neither Order, nor Method, in Ignorant motion; neither would there be distinct kinds or sorts of Creatures, nor such exact and methodical Varieties as there are: for, it is impossible to make orderly and methodical Distinctions, or distinct Orders, by Chances: Wherefore, Nature being so exact (as she is) must needs be Self-knowing and Perceptive…[90]

> there can be no regular motion without knowledg, sense and reason…[91]

> as Nature is wise, so her actions are all wise and orderly, or else it would make a horrid confusion amongst the Infinite parts of Nature.[92]

> there be Sense and Reason, which is not onely Motion, but a regular and well-ordered self-motion, apparent in the wonderful and various Productions, Generations, Transformations, Dissolutions, Compositions, and other actions of Nature, in all Natures parts and particles…[93]

It is tempting to be captivated by the sense that there is intelligence and teleology in nature: that there are ends and goals that are being served; that bodies are

working in the direction of these ends and that they coordinate their behavior accordingly. If we have no way to make sense of such teleology, we might attempt to explain it away, but Cavendish is suggesting that there is no need. The apparent teleology in nature would only need to be explained away if there were a compelling reason to explain it away, but we already know that matter thinks in the case of human beings, and so there is no reason to rule out that it thinks in the case of the smaller bodies of which a human being is composed. It is *obvious* that there is organized and goal-directed behavior in nature, Cavendish is arguing, and we should go with our initial assessment.[94]

Cavendish supposes that bodies are intelligent across the board, and she points to numerous examples to motivate her case. One is the work of the components of an organism to help the other parts of the organism that might be injured. She writes,

> Also in case of Oppression, when one part of the body is oppressed, or in distress, all the other parts endeavour to relieve that distressed or afflicted part. Thus although there is a difference between the particular actions, knowledges and perceptions of every part, which causes an ignorance betwixt them, yet by reason there is knowledg and perception in every part, by which each part doth not onely know it self, and its own actions, but has also a perception of some actions of its neighbouring parts; it causes a general intelligence and information betwixt the particular parts of a composed figure…[95]

We might think here of the way in which blood forms a protective scab to cover a wound, or the way in which the cells of the immune system attack invader bodies that aim to destroy their host. Cavendish sees as highly sophisticated and intelligent the behavior of the bodies of an animal's immune system, and she sees intelligence manifested in other orderly and purposive behaviors as well:

> to make it more plain and perspicuous, humane sense and reason may perceive, that wood, stone, or metal, acts as wisely as an animal: As for example; Rhubarb, or the like drugs, will act very wisely in Purging; and Antimony, or the like, will act very wisely in Vomiting; and Opium will act very wisely in Sleeping; also Quicksilver or Mercury will act very wisely, as those that have the French disease can best witness: likewise the Loadstone acts very wisely; as Mariners or Navigators will tell you: Also Wine made of Fruit, and Ale of Malt, and distilled Aqua-vitae will act very subtilly; ask the Drunkards, and they can inform you; Thus Infinite examples may be given, and yet man says, all Vegetables and Minerals are insensible and irrational, as also the Planets and Elements; when as yet the Planets move very orderly and wisely, and the Elements are

> more active, nay, more subtil and searching then any of the animal Creatures…[96]

The bodies that compose an organism exhibit intelligence, Cavendish supposes, and other bodies exhibit order and organization as well – for example, chemicals, planets, and rocks.[97] She cites also the process by which medicines seem to be able to discriminate between the parts of a body that need their assistance and the parts of the body that they can ignore:

> none ought to wonder how it is possible, that medicines that must pass through digestions in the body, should, neglecting all other parts, shew themselves friendly onely to the brain or kidnies, or the like parts; for if there be sense and reason in Nature, all things must act wisely and orderly, and not confusedly…[98]

Cavendish takes it to be obvious that goal-directed behavior is ubiquitous, along with the intelligence that guides it.

Cavendish points also to organized and goal-directed behavior that is exhibited in animals and insects. She writes,

> Yet some animals have more knowledge then others, by reason of their strength, as all beasts know their dams, and run to their Dugs, and know how to suck as soon as they are born; and birds and children, and the like weak Creatures, such do not.[99]

A baby kitten will figure out how to nurse from its mother immediately after it is born; a baby chick will struggle to hatch from its egg, and it is a stretch to say that the chick is not *trying* to break through. Cavendish continues:

> nay, the knowledg of other Creatures many times gives information to Man: As for example; the *Egyptians* are informed how high the River *Nilus* will rise by the Crocodil's building her nest higher or lower, which shews, that those Creatures fore-see or fore-know more then Man can do: also many Birds fore-know the rising of a Tempest, and shelter themselves before it comes: the like examples might be given of several other sorts of Animals…[100]
>
> THE *Spiders Hensewifry* no *Webs* doth spin,
> To make her *Cloath,* but *Ropes* to hang *Flies* in.
> Her *Bowels* are the *Shop,* where *Flax* is found….
> A *Wall* her *Distaff,* where she sticks *thread* on,
> The *Fingers* are the *Feet* that pull it long.

And wheresoever she goes, nere idle sits,
Nor wants a *House,* builds one with *Ropes,* and *Nets.*
Though it be not so strong, as *Brick,* and *Stone,*
Yet strong enough to beare light *Bodies* on.
Within this *House* the Female *Spider* lies,
The whilst the *Male* doth hunt abroad for *Flies.*
Nere leaves, till he the *Flies* gets in, and there
Intangles him within his *subtle Snare.*
Like *Treacherous Host,* which doth much welcome make,
Yet watches how his *Guests Life* he may take.[101]

All of the behavior that Cavendish is citing at the very least *appears* to be purposive and intelligent. The spider weaves a web very elegantly, with the precision and care of a craftsperson. We might say something similar in the case of the bees that attempt to swarm us after we have threatened their hive. They are trying to sting us, and they are doing so deliberately. The bodies that organize into the form of a bee would seem to be intelligent and sophisticated as well:

> And why may not the sensitive and rational part of Matter know better how to make a Bee, then a Bee doth how to make Honey and Wax? or have a better communication betwixt them, then Bees that fly several ways, meeting and joyning to make their Combes in their Hives?[102]

Bees communicate with each other when they are protecting the hive from an overt threat, just as they communicate with each other when they first construct the hive and when they participate in everyday maintenance. The organization of matter into a bee is more complicated still.

Cavendish is especially impressed with the behavior and practices of ants. She describes them as planning, as coordinating, and even as engaging in ritual:

MArk but the little *Ant,* how she doth run,
…As if she ordered all the *Worlds Affaires;*
When tis but onely one small *Straw shee* bears.
But when they find a *Flye,* which on the ground lyes dead,
Lord, how they stir; so full is every *Head.*
Some with their *Feet,* and *Mouths,* draw it along,

Others their *Tailes,* and *Shoulders* thrust it on.

And if a *Stranger Ant* comes on that way,

Shee helpes them strait, nere asketh if *shee* may.

Nor staies to ask *Rewardes,* but is well pleas'd:

Thus paies her selfe with her owne *Paines,* their *Ease*….

Their *House* is *Common,*…

All help to *build,* and keep it in *repaire,*

No 'speciall *work-men,* all *Labourers* they are.

…To keep in *life,* through *Dangers* run,

To get *Provisions* in 'gainst *Winter* comes.[103]

> A Company of *Ants* meeting together, chose the Root, or bottom thereof, to build a City; but wheresoever any of them build, they build after one fashion, which is like a Hill, or half-Globe, the outside being Convex, the inside Concave; a Figure, it seems, they think most lasting, and least subject to ruin…[104]
>
> they, being wiser than Man, know Time is precious; and therefore judiciously order it, forecasting while they work, and taking up the whole time with Contrivance, leaving none for Practice; neither do they prefer Curiosity before Convenience. Likewise, they are careful of Repairs, lest Ruin should grow upon them; insomuch, that if the least Grain of Dust be misplaced, they stop, or close it up again. …so their care and affection is not less to bury their Dead.[105]

Cavendish takes it to be an obvious pre-theoretical datum that ants exhibit organization and goal-directedness and that they behave with an eye toward the goal of preserving their community. They appear to engage in ritual in the burial of their dead. Cavendish is suggesting that these are data to which any account of reality has to be sensitive and that they square extremely well with the thesis that matter tends to be thoughtful and intelligent.[106] Ants and other organisms are sophisticated and impressive, and they are more than (what her opponents might say is) *mere* matter.[107]

Cavendish is enamored with the behavior of insects and non-human animals, and she is impressed with the behavior of human beings as well. She emphasizes the behavior of non-humans presumably because the sophistication of such behavior has been downplayed, and because (rational) human behavior has been seen as more exalted. She recognizes that human beings are often quite impressive, but she wants to call attention to the fact that some of our greatest achievements and inventions are due in part to mechanisms that have little to

do with us. She concedes that we are able to construct impressive artifacts, for example, but she argues that when we do we are manipulating bodies that are sophisticated and impressive on their own. She writes,

> if we observe well, we shall find that the Elemental Creatures are as excellent as Man, and as able to be a friend or foe to Man, as Man to them, and so the rest of all Creatures; so that I cannot perceive more abilities in Man then in the rest of natural Creatures; for though he can build a stately House, yet he cannot make a Honey-comb; and though he can plant a Slip, yet he cannot make a Tree; though he can make a Sword, or Knife, yet he cannot make the Mettal.[108]
>
> though he be an Instrument, as all other things are, to further Natures Works, since she is pleased to work one thing out of another, not making new Principles for every thing, yet he cannot work as she worketh: for though he can extract, yet he cannot make; for he may extract Fire out of a thing, but he cannot make the principle Element of Fire…[109]

Here Cavendish is stating a refrain that is found throughout her corpus: that human beings are able to create remarkable things out of bodies, but that we can only do this because of the underlying capacities that those bodies already have. We might uncover that a body has capacities A, B, and C, and that a second body has capacities D and E; we might also notice that the latter body exhibits feature F when the first body is mixed in with it. We combine the two bodies, and we announce that we have brought about feature F. What Cavendish wants to emphasize is that it is the underlying capacities of the two bodies that are doing much (if not most) of the work. A more playful sort of example might be the case of two human beings who say that they are going to make a child after a romantic evening together, where the human body does the most intricate and complicated work on its own. Cavendish says of generation specifically,

> if there were not Knowledg in all Generations or Productions, there could not any distinct Creature be made or produced, for then all Generations would be confusedly mixt, neither would there be any distinct kinds or sorts of Creatures, nor no different Faculties, Proprieties, and the like.[110]

We know in the present day that there is such a thing as the placenta, which sees to it that the right amounts of nutrition and oxygen are delivered to the developing fetus. If the mother does not consume enough food, the nutrients are parceled out in a way that increases the chances that both will survive.

Here Cavendish is again foreshadowing a view that is more prominent in Hume: although human beings are directly responsible for crafting sophisticated entities like watches and libraries, non-human beings are responsible for generation and many other sorts of production that would appear to be beyond us.[111]

Unconscious embodied intelligence

Cavendish takes thought to be a primitive feature of matter, and takes thinking matter to be ubiquitous. At this point it becomes clear that she will need to have a fairly demarcated view on the phenomenology of thinking if she is to avoid the *reductio ad absurdum* objection that the components of tables and trees and cells are not conscious or reflective and therefore are not thinkers. Cavendish assumes that it is obvious that many of the behaviors of the bodies that surround us are properly identified as intelligent. However, she does not suppose that such beings are always (or even often) aware of their thinking. She instead defends the view that thinking is often largely unconscious.

As we saw earlier, More conceives of the soul of nature as an immaterial entity that has the wherewithal to guide bodies in their orderly behavior, even though it is "*without Sense and Animadversion*." He wants to ascribe enough mentality to the "soul of nature" that it can help bodies to engage in goal-directed behavior, but at the same time he wants to distinguish it from human minds that deliberate and reflect and persist into the afterlife. His contemporary and colleague Ralph Cudworth insists on a similar divide. What More called "the spirit of nature," Cudworth called "Plastick Nature," a being that "hath no *Animal-Sense* or *Consciousness*."[112] Cudworth argues that we cannot dismiss as a non-starter the view that unconscious intelligence guides the behavior of natural bodies, for unconscious intelligence is in many cases what guides the behavior of human beings. He appeals to examples like that of the well-practiced musician or dancer:

> But because this may seem strange at the first sight, that Nature should be said to *Act for the sake of ends*, and *Regularly* or *Artificially*, and yet be itself devoid of *Knowledge* and *Understanding*, we shall therefore endeavor to persuade the *Possibility*, and facilitate the Belief of it, by some other Instances; and first by that of *Habits*, particular those Musical ones of Singing, Playing upon Instruments, and Dancing.[113]

The expert dancer engages in movements that are highly sophisticated, where the body takes over and is able to perform a routine skillfully and without flaw. Indeed, if a dancer started thinking about her particular movements, there is a good chance that she would stumble. The same applies, Cudworth supposes, in the case of the expert pianist: the person is able to play complicated and beautiful music without paying conscious attention to the notes or

keys, where presumably their fingers are not paying conscious attention either.[114] The same applies again in the case of human behaviors that are more mundane: we are expert at these because we engage in them regularly, and because they are a part of our repertoire of habits.[115] Cudworth and More conclude that there is such a thing as unconscious thinking and insist that, like all thinking, it is a property of immaterial minds.

Cavendish agrees with Cudworth that there is habitual behavior that is intentional and goal-directed, but she attributes such behavior to bodies themselves. She proposes numerous examples:

> there is a wise saying, think first, and speak after; and an old saying that many speak first, and think after; and doubtlesse many, if not most do so, for we do not alwayes think of our words we speak, for most commonly words flow out of the mouth, rather customarily then premeditately, just like actions of our walking, for we go by custome, force and strength, without a constant notice or observation; for though we designe our wayes, yet we do not ordinarily think of our pace, nor take notice of every several step; just so, most commonly we talk, for we seldom think of our words we speak, nor many times the sense they tend to.[116]

These are examples that are sometimes identified today as instances of embodied intelligence or embodied intentionality. We might be taking a walk and having a conversation with a friend, not paying attention at all to how we step – even though our attention would kick in right away if we tripped on a rock, or if a different breakdown occurred.[117] Cavendish is isolating examples of everyday human behaviors in which a person does not notice what they are doing, or in which they do not notice central aspects of what they are doing. She is not suggesting that we are entirely unconscious in such cases, as indeed we might be paying attention to *some* aspect of what we are doing, or perhaps we are paying attention to something else entirely. Perhaps we are taking a walk, but absorbed in reflection upon a perennial philosophical problem. Cavendish says that "most commonly" the embodied behaviors in which we engage on a regular basis – and at which we are presumably expert – take place beyond our conscious notice. She says that "we do not ordinarily think of our pace," and that "we seldom think of our words we speak," but that instead "we go by custome, force and strength." She holds that much of the behavior of a human being takes place, or at least involves aspects that take place, below the threshold of conscious awareness.

Cavendish nowhere takes an explicit and unambiguous stand on whether or not the intelligent and sophisticated behavior of non-human bodies takes place below the threshold of awareness. However, there are at least three reasons to suppose that she holds that *much* of the thinking that guides the behavior of non-human bodies is unconscious. One is that she is clear that, "most

commonly," the thinking that guides the everyday behaviors at which human beings are expert is unconscious. But non-human bodies engage in a lot of the same skillful behaviors on an everyday basis. They are expert at these as well, Cavendish thinks, and they are composed of the same sophisticated matter as we are. The second reason is that Cavendish appeals to her doctrine of thinking matter in her rejection of More's view that the organized behavior of bodies is due to an unconscious "spirit of nature." In the course of that discussion, Cavendish never takes issue with More's view on the amount of awareness had by this spirit. She offers up the thinking and intelligence of matter as a replacement for the mentality of the spirit of nature, but the latter is unconscious and unreflective. She has every opportunity to differentiate her thinking matter and More's "spirit of nature" in this regard, but she never does.

The third reason is probably not a very good one – it amounts to an appeal to the principle of charity. That is, a reason for supposing that Cavendish takes the thinking of non-human bodies to be unconscious is that she would be crazy to attribute consciousness to (for example) ants, cells, spiders, bees, and plants. But perhaps she does hold that some of these are conscious thinkers, or maybe she would restrict conscious awareness to the larger organisms with which human beings have more in common. What she says herself is that "there is a difference between the particular actions, knowledges and perceptions of every part"[118] and that "each hath its own peculiar and particular knowledge."[119] She does not know for sure what the thinking is like of an ant or other insect, or what the thinking is like of a cell, and perhaps she is right not to be too dogmatic on these counts. She is committed to saying that much of the thinking that guides expert everyday behavior is unconscious, but she is also careful not to draw any firm and arbitrary lines.

Cavendish posits a number of examples of sophisticated human behavior that is guided by thought that is (at least partly) unconscious, and we might add to these examples ourselves. There is the reasoning that appears to go on in sleep, when we are not particularly conscious: we go to bed thinking about a problem, and we wake up with the answer. Or, in the course of a day, we might sit on a problem or question, and then all of a sudden the solution presents itself. In both cases there was intelligence at work in the interim, where we were not consciously thinking about the problem at hand. In another passage Cavendish reflects that such cases abound:

> there is an old saying, *The Mouth speaketh what the Heart thinketh;* yet Antiquity cannot verifie it for a truth: but, most commonly, the Tongue runs by rote and custom, without the consent of the Heart, or knowledg of the Thoughts: for, the Tongue doth ofttimes like the Legs, which most commonly walk without the guidance of the sight, or the directions of the knowledg; for few measure each stride, or count or look at every several step they take, nor think they how they go, nor (many times) where they go; and the Mind, many times, is so

> deep in Contemplations, that the Thoughts are so fix'd upon some particular Object, or so busily employed on some Invention, or so delightfully taken with some Fantasm, that although the Legs walk themselves weary, yet the Mind and Thoughts do not consider or think whether the Body hath Legs or no.[120]

Cavendish might be willing to concede that most of the time a human mind is conscious of *something*, but if so she would add that on such occasions there is unconscious intelligent activity taking place in the mind as well. She might put her point rhetorically and say that there is thinking of which we are aware, and thinking of which we are not. She might put her point even more rhetorically and say that when we are aware of our thinking, the object of our awareness is thinking (or intelligence or knowledge), but if we are not aware of it, that doesn't mean that it isn't going on. She writes,

> one part of a mans body, as one hand, is not less sensible then the other, nor the heel less sensible then the heart, nor the legg less sensible then the head, but each part hath its sense and reason, and so consequently its sensitive and rational knowledg; and although they cannot talk or give intelligence to each other by speech, nevertheless each hath its own peculiar and particular knowledge.[121]

When Cavendish argues that thinking matter is ubiquitous – in plants and cells, in spiders and ants – she is not supposing that thinking is of the highly conscious sort that sometimes takes place in human beings. That sort of thinking is a special border case. Thinking and intelligence are certainly a necessary condition of awareness of thinking and intelligence, but not the other way around.

Cavendish is thus taking issue with Descartes and any other philosopher who holds that thinking that is not conscious is not thinking at all. She might add that historically speaking she does not occupy the position of the minority. Philosophers before Descartes took minds and bodies to be very different sorts of substances – and intellectual activities to be in a very different category from the activities of the body – but they did not necessarily prioritize the highly conscious and reflective thinking of the philosopher.[122] Seventeenth-century contemporaries of Cavendish like Spinoza and Leibniz also posited a category of unconscious thinking; they argued that it constitutes the bulk of the activity of minds, human or not.[123] Descartes on the contrary argued that any thinking is conscious thinking:

> As to the fact that there can be nothing in the mind, in so far as it is a thinking thing, of which it is not aware, this seems to me to be self-evident… . [W]e cannot have any thought of which we are not aware at the very moment when it is in us.[124]

Descartes identifies this conclusion as self-evident, but he also supplies an argument. First, he argues (in the First Meditation and elsewhere) that we are not fully certain of the existence of the sensory objects that (apparently) surround us: we could be dreaming those objects, Descartes notes, and for all we know there is a radical divergence between our sensory experience and whatever it is that gives rise to it.[125] He then observes that if he entertains any thoughts at all – even thoughts about dreams and skepticism – there is something about which he cannot be skeptical:

> I have convinced myself that there is absolutely nothing in the world, no sky, no earth, no minds, no bodies. Does it not follow that I too do not exist? No: if I convinced myself of something then I certainly existed.[126]

Here Descartes has retreated to a highly introspective position after casting doubt on the existence of all sensible objects. He turns his attention to things that are quite perspicuous – his conscious mental states – and he notices that these have to exist in order for him to have raised any doubts at all. In the search for truths that are absolutely indubitable, he finds that he cannot doubt the existence of his highly conscious thinking:

> Can I now assert that I possess even the most insignificant of all the attributes which I have just said belong to the nature of a body? I scrutinize them, think about them, go over them again, but nothing suggests itself; it is tireless and pointless to go through the list once more. But what about the attributes I assigned to the soul? Nutrition or movement? Since now I do not have a body, these are mere fabrications. Sense-perception? This surely does not occur without a body, and besides, when asleep I have appeared to perceive through the senses many things which I afterward realized I did not perceive through the senses at all. Thinking? At last I have discovered it – thought; this alone is inseparable from me. I am, I exist – that is certain. But for how long? For as long as I am thinking… . At present I am not admitting anything but what is necessarily true. I am, then, in the strict sense only a thing that thinks; that is, I am a mind, or intelligence, or intellect, or reason… .[127]

Descartes is certainly correct that the existence of highly conscious thinking is indubitable while we are engaging in it. What Cavendish is suggesting, however, is that that does not mean that there are not other elements of the mind whose existence is less well known, and it does not mean that the mind is to be identified with those of its elements that *are* well known. In restricting himself to results that are absolutely indubitable, Descartes restricts his understanding of mentality to aspects of thinking that are indubitable and concludes that they are mental and cognitive alone.

Cavendish does not deny that we have conscious states of which we are intimately aware.[128] She just doesn't think that those kinds of state are constitutive of thinking.[129] She would be more aligned with the later view in Heidegger:

> Formally, it is unassailable to speak of the ego as consciousness of something that is at the same time conscious of *itself*, and the description of res cogitans as cogito me cogitare, or self-consciousness, is correct.[130]

Heidegger grants that when we are in the highly detached mode of philosophical reflection, we confront an ego or *I*, and we are certain that it is there, but he also worries that we are falsifying the data if we extrapolate that such an ego is to be equated with the human self or is always at play in our thinking and behavior. He argues in fact that Descartes gets the phenomenology of thought all wrong and that the subsequent Cartesian tradition has paid a price:

> Modern philosophy made a total turnabout of philosophical inquiry and started from the subject, the ego. It will be surmised and expected that, in conformity with this fundamental diversion of inquiry to the ego, the being now standing at the center would become decisive in its specific mode of being.[131]

Heidegger is focusing specifically on Descartes' view that "I think, therefore I am" is the appropriate foundation and starting point for all knowledge. He concedes that "I think, therefore I am" is "unassailable," but he worries that if we take it as our starting point in knowledge and inquiry, our consequent results will be distorted. For example, we might reflect and ask what human behavior is characteristically like, and (in a highly reflective mode) conclude that it is always guided by conscious thought. We might enter into a highly reflective state and inquire into our human nature, and conclude that first and foremost we are beings that are highly reflective:

> *In what way is the self given?* Not – as might be thought in adherence to Kant [and Descartes] – in such a way that an "I think" accompanies all representations and goes along with the acts directed at extant (outer) beings, which would thus be a reflective act… . Formally, it is unassailable to speak of the ego as consciousness of something that is at the same time conscious of *itself*, and the description of res cogitans as cogito me cogitare, or self-consciousness, is correct. But these formal determinations … are nevertheless very far from an interpretation of the phenomenal circumstances of the Dasein [human being], from how this being shows itself to itself in its factual existence,

> if violence is not practiced on the Dasein by preconceived notions of ego and subject drawn from the theory of knowledge.[132]

Heidegger makes use of a different expression to pick out human beings – *Dasein*. The German expression translates to "being out there," and Heidegger uses it to try to capture that for the most part when we are engaging in our pursuits and activities, we are not in a reflective mode, stuck in our own heads. He refrains from using expressions like "self" or "I"or "*homo sapiens*," out of concern that a number of misleading associations would cloud his point. It is true that one of the features that makes us distinctive is that we are conscious thinkers, and that might be what differentiates us from a lot of other beings, but Heidegger and Cavendish are suggesting that it is not the predominant feature of human life that philosophers have supposed it to be.[133]

Cavendish proposes additional support for the view that there is such a thing as unconscious intelligence, in the event that the instances that she offers as paradigmatic are not accepted as such. She anticipates an argument that Hume offers later. He famously writes,

> Nothing is more admirable, than the readiness, with which the imagination suggests its ideas, and presents them at the very instant, in which they become necessary or useful. The fancy runs from one end of the universe to the other in collecting those ideas, which belong to any subject. One would think the whole intellectual world of ideas was at once subjected to our view and that we did nothing but pick out such as were most proper for our purpose. There may not, however, be any present, besides those very ideas, that are thus collected by a kind of magical faculty in the soul, which, though it be always most perfect in the greatest geniuses, and is properly what we call genius, is however inexplicable by the utmost efforts of human understanding.[134]

Here Hume is arguing that conscious human intelligence often presupposes background cognitive processes that are not conscious themselves. The right thought will present itself to our conscious mind at just the right time, but not because we surveyed all the possible thoughts that are relevant to our situation, picking out the single one that was best. Even if we had done that, Hume is suggesting, the possible thoughts that are relevant to our situation would have had to present themselves to us, and one of these would also come pre-packaged with a non-neutral air of plausibility. There is presumably a process or faculty by which any of this happens – a pre-conscious faculty, by hypothesis, for it is a faculty by which thoughts come to the conscious mind. And this faculty or process has to be identified as intelligent itself. If we identify a person as intelligent when they express a brilliant idea, we should also identify as intelligent (or perhaps as "genius") the mechanism by which the idea shows up to the person's conscious mind in the first place: the person is brilliant not just

because they notice the thoughts that come to them – that's easy – but because of the presentation of the (conscious) thoughts themselves. The argumentative move here is not to deny that intelligence is to be attributed to conscious thinking, but to assert that a condition of attributing intelligence to conscious thinking is that intelligence be attributed to pre-conscious procedures as well.

Cavendish presents a similar line of reasoning. In *Poems and Fancies*, she uses her own more poetical language to speak of the mechanisms by which thoughts come to us in a coherent order:

> Who knowes, but in the *Braine* may dwel
> Little small *Fairies;* who can tell?
> And by their severall actions they may make
> Those *formes* and *figures,* we for *fancy* take.
> And when we sleep, those *Visions, dreames* we call,
> By *their* industry may be raised all;
> And all the *objects,* which through *sens'es* get,
> Within the *Braine* they may in order set.
> And some pack up, as *Merchants* do each thing,
> Which out sometimes may to the *Memory* bring.
> Thus, besides our owne *imaginations,*
> *Fairies* in our *braine* beget *inventions.*[135]

Here Cavendish is referring to the very common experience in which our mental life "in order set[s]." Our thinking often unfolds in an orderly and coherent manner: perhaps we are having a conversation or are thinking through an idea; or perhaps we think of an invention, where first there comes before our mind the idea of a need or interest, and then gradually there forms in our mind an idea of the invention as well. The process does not appear to be this: we think of the need or interest, and then decide that we will have an idea of a particular invention, and then the idea of the invention forms. That would suppose that we have the idea of the invention already.[136] The same would also seem to apply in the case of a larger train of thought: we might describe ourselves as authoring a line of thinking, but cognitive associations and other trains of thought often happen by their own devices.[137] We might suppose that we are one step ahead of thoughts as they unfold, deciding which to have from among many; but if a menu of such thought options were before us, it would be before us *already*, and already tagged by their weighting and relevance. Whatever the process by which thoughts come to us in a coherent order, Cavendish is supposing that it involves sophistication and intelligence itself.

In another poem, "The *Fairies* in the *Braine,* may be the *causes* of many *thoughts*," Cavendish highlights the sophistication and intelligence of the bodies that come together to form ideas. She writes,

> Our *fancies,* which in *verse,* or *prose* we put,
>
> Are *Pictures* which *they draw,*…
>
> And when those *fancies* are both *fine,* and *thin,*
>
> Then they *ingraven* are in *seale,* or *ring*.…
>
> When we of *childish toyes* doe thinke upon,
>
> A *Fayre* may be whereto those *people* throng,
>
> And in those *stalles* may all such *knacks* be sold;
>
> As *Bels,* and *Rattles,* or *bracelets* of *Gold.*
>
> Or *Pins, Pipes, Whistles* are to be bought there,
>
> And thus within the *Head* may be a *Fayre.*
>
> When that our *braine* with *amorous thoughts* doth run,
>
> Are marrying there a *Bride* with her *Bride-groom.*
>
> And when our *thoughts* are *merry, humours gay,*
>
> Then they are dancing on their *Wedding day.*[138]

A string of thoughts is in some cases something that we just observe as it unfolds: we have a thought of a toy, and then of a marketplace and all the beautiful objects that are sold in it; or we think of a wedding, and the figures of a bride and groom begin to dance in our imagination. Cavendish is supposing that in cases such as these the bodies that compose our ideas are intelligent and creative and are able to enter into creative formations. She appreciates that she is not explaining much when she uses the language of "fairies" to identify the causes that "in order set" our ideas. A few pages before the first poem, she remarks that some may "laugh at the report of *Fairies,* as impossible," but specifies that all that she means is "onely small bodies, not subject to our sense" that somehow are able to order our thought.[139] She refers back to the discussion again in *Philosophical Letters*:

> Art cannot arrive to that degree, as to know perfectly Natures secret and fundamental actions, her purest matter, and subtilest motions; and it is enough if Artists can but produce such things as are for mans conveniencies and use, although they never can see the smallest or rarest bodies, nor great and vast bodies at a great distance, nor

make or create a Vegetable, Animal, or the like, as Nature doth; for Nature being Infinite, has also Infinite degrees of figures, sizes, motions, densities, rarities, knowledg, &c. as you may see in my Book of Philosophy, as also in my book of Poems, especially that part that treats of little, minute Creatures, which I there do name, for want of other expressions, Fairies; for I have considered much the several sizes of Creatures, although I gave it out but for a fancy in the mentioned book….[140]

Cavendish does not purport to understand how our thoughts take on the order that they do. She likes the connotation of "fairy" because it suggests that no real explanation is being given other than to say that there is an effect that occurs, and that there exists a cause that somehow has the capacity to help to bring about that effect. We do not understand *any* cause-effect relationships, Cavendish thinks, but instead there is natural magic. Like Hume, she is arguing that thoughts tend to come to us in an order that makes sense and that, when they do, a highly cognitive faculty is at work to order them in that way. There is conscious intelligent thinking, of course, but a condition of conscious intelligent thinking is that there be non-conscious cognitive activity that is taking place behind the scenes. More and Cudworth would object that, although such unconscious intelligence is pervasive, it is a feature of immaterial minds only. Cavendish supposes that there are a number of immediate properties that admit of no further explanation and that intelligence is an immediate property of matter.

A potential drawback for Cavendish's view that thought and intelligence are pervasive in nature is that she nowhere provides an account of the essential nature of intelligence. She does not provide a theoretical account of what intelligence is, nor does she provide us with a way to tell which bodies and which bodily behaviors are intelligent, or a way to tell which intelligent bodily behaviors are relatively intelligent and which are more stupid. This is indeed a problem for Cavendish's position. One of the reasons that she gets into trouble here is that she holds that intelligence can be either conscious or unconscious. She cannot say – with someone like Descartes – that the dividing line between behaviors that are minded and behaviors that are not is that the former involve conscious awareness. Descartes himself writes that

> By the term 'thought' I understand everything which we are aware of as happening within us, in so far as we have awareness of it.[141]

He might even go farther, however, and say that if a being needs to be told what thought is – in order to be able to identify it – that being is probably not in possession of thought, and is a kind of zombie or robot. Such a being would be awkward and clunky if it attempted most human behaviors, Descartes might add, and it would be not capable of adaptive flexibility.[142] Cavendish

would retort that much of the sophisticated behavior of human beings is also exhibited in non-humans and that, in the case of both sorts of being, such behavior often takes place without being guided by conscious thought. She would add that the intelligent beings of the plenum are not clunky, but graceful and smooth. Cavendish indeed worries that we overlook a lot of thinking and intelligence if we draw an artificially clean line with Descartes and suppose that the only varieties that exist are conscious. She thinks that thinking and intelligence can be conscious or unconscious, that some bodies are intelligent and that others are not,[143] and that the conscious intelligent behavior of a body that *is* intelligent requires unconscious cognitive behavior that undergirds it.

When Cavendish looks to the world around her, she sees goal-directedness, monitoring, attentiveness, wherewithal, resilience, and perception. She notices some conscious behavior that is very intelligent, and some that is not; she notices some unconscious behavior that is very intelligent, and some that is not. She does not provide an account or theory that would inform us how to draw the various lines clearly and exactly, but she might ask about the value of any such account. That is to say, she might insist that we are not in need of an account of intelligence so long as we are able to make confident identifications of intelligence on a case-by-case basis. She might argue also that it has proven extremely difficult to articulate an account of intelligent thoughtful behavior – pointing to her own efforts and the efforts of her predecessors, or (if she could) to the efforts of the generations of philosophers who have come after her – and she might conclude in addition that we do not need such an account to get by in our everyday affairs.[144] Presumably the approach that we would take to come up with the account in question would be to provide uncontroversial examples of intelligent thoughtful behavior and then locate what it is that they have in common. However, that approach already supposes that we have the ability to tell intelligence from non-intelligence – whether we end up articulating the account or not. Cavendish would in fact insist that on a daily basis we are able to successfully identify a number of instances of intelligence, and a number of different degrees. This may not be an especially satisfying response on her behalf, but she has also argued (from chapter one) that although we benefit from doing some of the theoretical and explanatory work of the philosopher, at a certain point there are diminishing returns, and we might benefit from focusing instead on concerns that are more practical and day-to-day. Of course, her opponent (but not More, Cudworth, Spinoza, or Leibniz) would argue that she is mistaken in the bulk of her identifications.

Laws of nature

There are at least two more objections with which Cavendish has to contend in defending her view that matter thinks. An objection that she would have

faced in the early modern period is that the order that is exhibited in bodies is not due to the bodies themselves, but to laws of nature that govern their behavior.

Cavendish agrees with More and Cudworth that the order and organization that is exhibited by bodies is evidence that bodies are guided by intelligence, but she rejects the view that bodies are thereby affixed to immaterial minds.[145] A remaining move for her opponent is to argue that the cause of the orderly behavior of bodies is neither immaterial minds nor bodies; instead, bodies behave in an orderly manner because they are governed by laws of nature. This was already a common supposition in the work of seventeenth-century scientists like Kepler, Galileo, and Descartes, but a worry that Cavendish raises for it is that if the ontology of a law of nature is not fully specified, we are not saying very much when we posit that it is a cause of order and organization. For example, we are leaving unexplained how exactly bodies would be able to obey a law, and how a law would be able to get bodies to act in concert. She writes,

> Concerning the Numbers of *Pythagoras,* which he makes so great a value of; I confess, wheresoever are Parts, and compositions, and divisions of parts, there must also be number, but yet as parts cannot be principles, so neither can numbers; for self-moving Matter, which is the onely principle of Nature, is infinite, and there are no more principles but this one. 'Tis true, regular compositions and divisions are made by consent of parts, and presuppose number and harmony, but number and harmony cannot be the cause of any orderly productions, without sense and reason; for how should parts agree in their actions, if they did not know each other, or if they had no sense nor reason? truly there can be no motion without sense, nor no orderly motion without reason; and though *Epicurus*'s Atomes might move by chance without reason, yet they could not move in a concord or harmony, not knowing what they are to do, or why, or whither they move…[146]

Cavendish is worried that it is a cheat to account for the orderly behavior of bodies by appealing to laws if there is not also a further fleshing out of the ontology of laws and how they interact with and guide material bodies. She is happy to speak in terms of laws in the context of her own system, so long as these just reduce to the intelligence inherent in bodies themselves. She continues:

> and therefore, in my opinion, it is the rational and sensitive parts which by consent make number and harmony; and those that will deny this sensitive and rational self-moving Matter, must deny the

> principles of motion, and of all constant successions of all sorts and kinds of Creatures, nay, of all the variety that is in Nature. Indeed I am puzled to understand Learned men, what they mean by Principles, by reason I see that they so frequently call Principles those which are but effects of Nature.[147]

Cavendish rejects the view that laws of nature are entities in addition to bodies that make them behave in an orderly way. She has offered independent arguments for the thesis that matter thinks, and she sees no need to look outside of bodies for an account of their organization and apparent teleology. The question of the ontology of laws is at least as difficult as the question of why matter thinks, but Cavendish is supposing that these are not two difficult questions, but just one.

The relative value of body vs. mind

Another objection which Cavendish would have faced in the early modern period is that bodies are low-grade entities and that thinking is too exalted an activity for a body to be able to participate in.[148] Historically, figures like Socrates, Plotinus, and Augustine embraced the view that matter is inherently inactive and inert. Socrates equated bodies with death.[149] Augustine took bodies to be vile and worthless: he argued that sin was to be identified with turning our attention toward sensible bodies and away from ideas and from affairs of the soul.[150] His precursor Plotinus wrote of "the darkness inherent in matter," and warned against the pursuit of physical objects and sensory pleasure.[151] We should turn our attention instead toward the immaterial and divine.[152] He writes,

> [A]n ugly soul… is friend to filthy pleasures, it lives a life abandoned to bodily sensation and enjoys its depravity. …If someone is immersed in mire or daubed with mud, his native comeliness disappears; all one sees is the mire and mud with which he is covered. Ugliness is due to the alien matter that encrusts him. If he would be attractive once more, he has to wash himself, get clean again, make himself what he was before. Thus we would be right in saying that ugliness of soul comes from its mingling with, fusion with, collapse into the bodily and material….[153]

This is a view that is common in the work of a lot of figures in the history of philosophy, and it is a component of religious traditions that emphasize the priority of the soul over the body. Cudworth put it like this:

> There is unquestionably, a *Scale* or *Ladder* of *Nature*, and Degrees of *Perfection* and *Entity*, one above another, as of *Life, Sense*, and

> *Cogitation*, above Dead, Sensless and *Unthinking Matter*; or *Reason* and *Understanding* above *Sense, &c.*[154]

If bodies are low-grade beings, the objection against Cavendish runs, they have very limited capacities, and they would not be able to exhibit a feature so exalted as thought.

Here Cavendish is up against a longstanding tradition in which it is basically a conceptual truth that matter is inert and dead; if so, her doctrine of thinking matter will come off as suspicious, if not incoherent.[155] She is supposing that bodies are sophisticated and impressive, but not because they are attached to immaterial minds. Her view that minds are material is not the view that minds are

> composed of raggs and shreds, but it is the purest, simplest and subtillest matter in Nature.[156]

For Cavendish, the only reason that we would conclude that immaterial entities are responsible for the orderly behavior of bodies is if we thought that bodies were so unsophisticated that they did not have the wherewithal to engage in orderly activity on their own. She is arguing that if we pay careful attention, however, we will see that bodies are remarkable. Cavendish's opponent will insist that for any sophisticated body that she presents for inspection, it is just a (low-grade) body that is conjoined to a soul. At this point in the debate, observations of sophisticated bodies would not do any work. Cavendish would proceed to point to systematic considerations that concern the interaction of minds and bodies, the motion of minds, and the divisibility of minds and bodies. Her opponents would respond that these are not the data that Cavendish takes them to be.

The products of a divine being

Cavendish presents a final set of arguments for the view that bodies think. The arguments are from God's nature. One thing to note before addressing these is that Cavendish does not intend for them to do any heavy lifting. She holds that ideas are imagistic pictures and that we have no ideas of immaterial entities – God included – and she will therefore be extremely cautious about appealing to premises that concern God's nature. She makes very clear that she appeals to such premises only in cases in which she is in conversation with *opponents* who appeal to them first – so that she can "reply" to these opponents, and corner them into conclusions that Cavendish finds plausible herself. She writes at the beginning of *Philosophical Letters*,

> I shall meerly go upon the bare Ground of *Natural Philosophy,* and not mix Divinity with it, as many Philosophers use to do, except it be in those places, where I am forced by the Authors Arguments to

> reflect upon it, which yet shall be rather with an expression of my ignorance, then a positive declaration of my opinion or judgment thereof; for I think it not onely an absurdity, but an injury to the holy Profession of Divinity to draw her to the Proofs in *Natural Philosophy;* wherefore I shall strictly follow the Guidance of *Natural Reason,* and keep to my own ground and Principles as much as I can…[157]

Cavendish will not rest any of her own epistemological or metaphysical theses on arguments from God's nature.[158] In every case in which she offers such an argument, she is isolating premises that are advanced by her opponents and that (she thinks) support her own positions instead. She will always make sure to offer additional arguments in support of these positions – arguments that do not employ theistic premises and that support her views on ground that is articulable and not as shifting. She supposes that methodologically speaking this is the best way to proceed.

One of the theistic arguments that Cavendish presents for the view that matter thinks is an argument from God's wisdom and bounty. She writes,

> there is nothing in Nature but what is material; but he that thinks it absurd to say, the World is composed of meer self-moving Matter, may consider, that it is more absurd to believe Immaterial substances or spirits in Nature, as also a spirit of Nature, which is the Vicarious power of God upon Matter; For why should it not be as probable, that God did give Matter a selfmoving power to her self, as to have made another Creature to govern her? For Nature is not a Babe, or Child, to need such a Spiritual Nurse, to teach her to go, or to move; neither is she so young a Lady as to have need of a Governess, for surely she can govern her self; she needs not a Guardian for fear she should run away with a younger Brother, or one that cannot make her a Jointure…[159]

Here Cavendish is contending against More (and Cudworth and others) that God would not have filled the universe with deficient beings that require additional helpers to enable them to move in an orderly way. He would have packed enough capacity into bodies straightaway. She writes,

> some Men, not knowing all other parts, believe there is no reason, and but little sense in any part of Nature but themselves; nay, that it is irreligious to say, that there is, not considering, that God is able to give Sense and Reason to Infinite Nature, as well as to a finite part. But those are rather irreligious, that believe Gods power is confined, or that it is not Infinite.[160]

> natural Matter stands in no need to have some Immaterial or Incorporeal substance to move, rule, guide and govern her, but she is able

enough to do it all her self, by the free Gift of the Omnipotent God; for why should we trouble our selves to invent or frame other unconceivable substances, when there is no need for it, but Matter can act, and move as well without them and of it self? Is not God able to give such power to Matter, as to an other Incorporeal substance?[161]

I cannot imagine why God should make an Immaterial Spirit to be the Proxy or Vice-gerent of his Power, or the *Quarter-master General of his Divine Providence,* as your *Author* is pleased to style it, when he is able to effect it without any Under-Officers, and in a more easie and compendious way, as to impart immediately such self-moving power to Natural Matter, which man attributes to an Incorporeal Spirit.[162]

But is it not strange, *Madam,* that a man accounts it absurd, ridiculous, and a prejudice to Gods Omnipotency, to attribute selfmotion to Matter, or a material Creature, when it is not absurd, ridiculous, or any prejudice to God, to attribute it to an Immaterial Creature? What reason of absurdity lies herein? Surely I can conceive none, except it be absurd and ridiculous to make that, which no man can know or conceive what it is, *viz.* an immaterial natural Spirit, (which is as much as to say, a natural No-thing) to have motion, and not onely motion, but self-motion; nay, not onely self-motion, but to move, actuate, rule, govern, and guide Matter, or corporeal Nature, and to be the cause of all the most curious varieties and effects in nature: Was not God able to give self-motion as well to a Material, as to an Immaterial Creature, and endow Matter with a self-moving power?[163]

In these passages Cavendish is raising the question of what kinds of entity we would expect to be created by a being that is omnipotent and perfect. Her opponent supposes that God imbues immaterial entities with activity and intelligence, and she wants to know why an infinitely impressive artisan would not create bodies to be just as endowed. A few decades after Cavendish, G.W. Leibniz and Anne Conway argue that God's bounty and creative prowess are such that we would expect all creatures to be active and intelligent.[164] The three philosophers are proposing a solution to a problem that confronts Socrates, Plotinus, Augustine, More, Cudworth, and other dualistically minded philosophers: why God would have created bodies in the first place if they are so degenerate and despicable. Leibniz and Conway conclude that God created minds only.[165] Cavendish is assuming the existence of extended bodies and arguing that anyone who identifies a perfect God as their creator should conclude that such bodies are remarkable and majestic.

Cavendish also makes sure to offer arguments against the view that God is immediately responsible for the orderly behavior of bodies Himself. As we

have seen, Malebranche subscribed to the view later in the seventeenth century, and versions of it are present in the work of her contemporaries Descartes and Boyle.[166] Cavendish rejects the view out of a concern that it makes God into a busybody:

> Tis true, God hath actions, but they are not corporeal, but supernatural, and not comprehensible by a humane or finite capacity: Neither is God naturally moving, for he has no local or natural motion, nor doth he trouble himself with making any thing, but by his All-powerfull Decree and Command he produces all things; and Nature, which is his Eternal servant, obeys his Commands: Wherefore the actions of Nature cannot be a disturbance to his Incomprehensible felicity…[167]

Here Cavendish is suggesting that God is sufficiently exalted that He cannot be bothered with having to attend to each and every bodily motion. She is also appealing to the premise that, as an immaterial, God is incapable of motion and hence is not capable of imparting motion to bodies, orderly or otherwise. He might *decree* that bodies behave in an orderly manner, but in that case He might as well decree that bodies be intelligent. She continues,

> it must either be done by an All-powerful Command, or by an Immediate action of God: The later of which is not probable, to wit, that God should be the Immediate Motion of all things himself; for God is an Immoveable and Immutable Essence; wherefore it follows, that it is onely done by an Omnipotent Command, Will and Decree of God; and if so, Why might not Infinite Matter be decreed to move of it self as well as a Spirit, or the Immaterial Soul? But I perceive, Man has a great spleen against self-moving corporeal Nature, although himself is part of her, and the reason is his Ambition; for he would fain be supreme and above all other Creatures, as more towards a divine Nature: he would be a God, if arguments could make him such, at least God-like, as is evident by his fall, which came meerly from an ambitious mind of being like God.[168]

> As for God, he being immoveable, and beyond all natural motion, cannot actually move Matter; neither is it Religious, to say, God is the Soul of Nature; for God is no part of Nature, as the soul is of the body; And immaterial spirits, being supernatural, cannot have natural attributes or actions, such as is corporeal, natural motion.[169]

In an effort to triangulate the lay of the philosophical land, Cavendish is arguing against the Cartesian view that God is the (constant) cause of the orderly behavior of bodies, and also against the view in More and Cudworth that God has created immaterial intermediaries to attend to non-immaterial

entities that are beneath Him. Cavendish supposes that if we are going to venture into the unsettled territory of assertions about God's nature, we would be wisest to say that God transcends the world of natural bodies but that He provided these with the resources to attend to their own affairs.

A second theistic argument that Cavendish offers for the view that all creatures are intelligent – bodies included – is from the assumption that God merits as much adoration as possible. If that assumption is correct, Cavendish supposes, God would have seen to it that all of His creatures are able to worship Him. He has the power to make creatures accordingly, and so He did:

> [S]ome may say, it is Irreligious to believe any Creature has rational knowledg but Man. Surely, *Madam,* the God of Nature, in my opinion, will be adored by all Creatures, and adoration cannot be without sense and knowledg. Wherefore it is not probable, that onely Man, and no Creature else, is capable to adore and worship the Infinite and Omnipotent God, who is the God of Nature, and of all Creatures: I should rather think it irreligious to confine sense and reason onely to Man, and to say, that no Creature adores and worships God, but Man; which, in my judgment, argues a great pride, self-conceit, and presumption.[170]

> why may not God be worshipped by all sorts and kinds of creatures as well, as by one kind or sort? I will not say the same way, but I believe there is a general worship and adoration of God; for as God is an Infinite Deity, so certainly he has an Infinite Worship and Adoration, and there is not any part of nature, but adores and worships the only omnipotent God, to whom belongs Praise and Glory from and to all eternity: For it is very improbable, that God should be worshipped onely in part, and not in whole, and that all creatures were made to obey man, and not to worship God, onely for man's sake, and not for God's worship, for man's use, and not God's adoration, for mans spoil and not God's blessing.[171]

Cavendish has assembled a number of arguments that start from theistic premises and that result in the conclusion that thinking matter is pervasive. As we will see in chapter four, she offers theistic arguments for other metaphysical doctrines as well. Such arguments do not serve as adequate support for these doctrines, she thinks, and in each case she will present non-theistic arguments also. The latter will serve as the ground for her view that the universe is an eternal plenum, that there is no irregularity in nature, that all events unfold deterministically, and that individual creatures are collections of bodies that work to preserve a fixed quantity of motion.

Before we proceed to a discussion of the rest of her materialist metaphysics, however, a closer inspection of her views on immaterials is in order. Cavendish

wants to be able to speak of these – at least to be able to say that they might exist, and to engage her opponents – but in the end she holds that we can have no ideas of immaterials and that any mental states that might be directed at an immaterial have no detectable content.

Notes

1 See for example, Plato, *Phaedo*, 116–117; Plotinus, "On Beauty," I.6, 37; and St. Augustine, *On Free Choice of the Will*, 19, 27.
2 See for example the Sixth Meditation, CSM2: 54, 56; and "To Princess Elisabeth, 28 June 1643," CSMK 226–229.
3 "To Mersenne, 21 January 1641," CSMK 169.
4 See for example *Principles* I.53, CSM1: 210–211. Here I am bracketing the difficult (and controversial) question of whether or not Descartes holds that there is a substance that has two principal attributes – namely, mind–body union.
5 Princess Elisabeth, "Princess Elisabeth of Bohemia to René Descartes, 16 May 1643," 9–10.
6 Pierre Gassendi, *Fifth Objections*, CSM2: 238–239.
7 The Sixth Meditation, CSM2: 56.
8 "To Princess Elisabeth, 28 June 1643," CSMK 227–228.
9 *Fifth Replies*, CSM2: 266.
10 See for example *Fourth Replies*, CSM2: 159; and *Principles of Philosophy* I.40–41, CSM1: 206.
11 The Third Meditation, CSM2: 33.
12 *PL*, 196.
13 *PL*, 10.
14 *PL*, 197.
15 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 17.
16 *PL*, 239. Here Cavendish suggests that immaterial substances are nothing, but as we will see, she qualifies her view. She holds more specifically that immaterial substances are a "natural nothing" and that if they exist, they are supernatural entities that we cannot conceive or discuss meaningfully. There is a further discussion of this issue below and in chapter three.
17 *PL*, 207.
18 *PL*, 290.
19 *PL*, 301–302. See also *PL*, 423.
20 A worry of course is that if Cavendish allows that matter is sophisticated and even magical, she should allow that occurrences of (perhaps magical) action at a distance are possible. This sort of objection will be considered below.
21 *NP*, 586.
22 *GNP*, 86.
23 See also the discussion in Fitzmaurice (1990), 201–202. Fitzmaurice considers some of the physiological conditions from which Cavendish herself appeared to suffer, and the impact on her apparent struggles with depression.
24 Another early modern figure who thinks a lot about dementia and its implications is the physician Julien Offray de La Mettrie. *Machine Man*, in *Machine Man and Other Writings*, 8–9.
25 There is a further discussion of this issue in chapter three below, with a focus on the view in Van Helmont that there are immaterial entities that are involved in the well-functioning of a human body and also in disease. Note that Cavendish's thinking here calls to mind the thinking in the contemporary philosopher Paul

Churchland, though Cavendish of course is no eliminativist. But see Churchland (1984), 43–45.

26 "The Several Wits," in Playes, 80. See also "The Comical Hash," in *Playes*, 570.

27 *PL*, 330. See also *PL*, 77, 276.

28 Malebranche, *The Search After Truth*, III.ii.5, 230–235; Leibniz, *The Monadology*, sections fifteen through twenty two, 644–645.

29 *PL*, 69.

30 *OEP*, "Further Observations upon Experimental Philosophy," 45.

31 *PPO*, 119. See also *OEP*, 75; *NP*, 566, 620–621; and *Orations of diverse sorts*, 192–193.

32 Russell (1925), 7.

33 Unless, of course, our most intuitive understanding of reality turns out to be mistaken.

34 See for example *Principles of Philosophy* I.40–41, CSM1: 206; and *Principles of Philosophy* II.36, CSM1: 240.

35 *PL*, 225–26.

36 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 12.

37 "To all the Writing Ladies," in *Poems and Fancies*, unnumbered.

38 *GNP*, 2.

39 *PL*, 77.

40 *OEP*, "Further Observations upon Experimental Philosophy," 62.

41 *OEP*, 126.

42 *OEP*, 156.

43 *OEP*, "Further Observations upon Experimental Philosophy," 61.

44 *OEP*, 250. See also *OEP*, 148; *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 12, 54; *PL*, 22, 117, 402, 421; and *PPO*, 78, 86.

45 *PL*, 196. See also O'Neill (2013), 314. There are a few passages in which Cavendish makes the more restricted claim that immaterial beings do not admit of "natural motion." See *OEP*, "Further Observations upon Experimental Philosophy," 61; *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 4; and *OEP*, 113. In these passages she is presumably highlighting that the kind of motion that human minds have detected and are able to conceive is the motion of bodies, and that immaterial minds might have some other kind of motion. Our minds do not admit of *that* kind of motion, but travel with our bodies from place to place. There is a further discussion of "natural motion," and also Cavendish's view that minds are a "natural nothing," in chapter three.

46 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 20.

47 *PL*, 185–186. See also *PL*, 197, 225–226.

48 *PL*, 33.

49 *PL*, 8. See also "The Comical Hash," in *Playes*, 560. Here we might call to mind a passage in Hobbes: "The world (I mean not the earth only, that denominates the lovers of it worldly men, but the universe, that is, the whole mass of all things that are) is corporeal (that is to say, body), and hath the dimensions of magnitude (namely, length, breadth, and depth). Also, every part of body is likewise body, and hath the like dimensions. And consequently, every part of the universe is body, and that which is not body is no part of the universe. And because the universe is all, that which is no part of it is nothing (and consequently, nowhere). Nor does it follow from hence that spirits are nothing. For they have dimensions, and are, therefore, really bodies…." See Thomas Hobbes, *Leviathan*, IV.xlvi.15, 459. See also Duncan (2012), 399–340; and Hutton (1997a), 427.

50 See also Locke: "No Body can imagine, that his Soul can think, or move a Body at *Oxford*, whilst he is at *London*; and cannot but know, that being united to his Body,

it constantly changes place all the whole Journey, between *Oxford* and *London*, as the Coach, or Horse does, that carries him; and, I think, may be said to be truly all that while in motion…" (*An Essay Concerning Human Understanding*, 307). Locke does not quite make the leap to the conclusion that matter thinks, however. For a discussion of just how close he seems to get, see Jolley (1984), 18–25.

51 *GNP*, 70. Note that Hobbes also holds that thoughts partake of motion. For example, he writes in *Leviathan*, "These words, *appetite* and *aversion*, we have from the *Latins*, and they both of them signify the motions, one of approaching, the other of retiring. So also do the Greek words for the same, which are *horme* and *aphorme*. For nature itself does often impress upon men those truths which afterwards, when they look for somewhat beyond nature, they stumble at. For the schools find in mere appetite to go, or move, no actual motion at all; but because some motion they must acknowledge, they call it metaphorical motion, which is but an absurd speech; for though words may be called metaphorical, bodies and motions cannot" (I.vi.2, 28). Hobbes does not explicitly appeal to the motion of thoughts to defend the view that minds are material, but in this passage he comes very close. Note however that Hobbes does not go to a lot of trouble to defend his materialist view of mind; he seems for the most part just to presuppose it. For example, he argues that the notion of an immaterial substance is incoherent because "the subject of any act can be understood only in terms of something corporeal or in terms of matter" (*Third Replies*, CSM2:122), but he does not defend the latter claim, and that claim just amounts to the claim that all substances are bodies. He also argues that his dualist opponents are mistaken to argue that if we can think of thinking in abstraction from properties like size or shape, then thinking is immaterial (*De Corpore*, 3.4). Hobbes may be right that his dualist opponents are mistaken here, but that wouldn't mean that he is right that thinking is material. For a further discussion of the thin-ness of Hobbes's argumentation for materialism, see Duncan (2013).

52 *PPO*, 17.

53 *PPO*, 173. See also *PPO*, 20; *WO*, 5; *WO*, 100; and the poem at the end of *The World's Olio*, unnumbered.

54 *PL*, 210–211.

55 The Second Meditation, CSM2: 17.

56 *Monadology*, sections 7, 21, 67, 57.

57 Henry More, *Enchiridion Metaphysicum*, "The True Notion of a Spirit," 188.

58 Henry More, *The Immortality of the Soul*, 63.

59 *Enchiridion Metaphysicum*, "The True Notion of a Spirit," 207.

60 *The Immortality of the Soul*, 70.

61 *Enchiridion Metaphysicum*, "The True Notion of a Spirit," 213.

62 *The Immortality of the Soul*, 63.

63 *Enchiridion Metaphysicum*, "The True Notion of a Spirit," 206–209.

64 See also Conway, *The Principles of the Most Ancient and Modern Philosophy*, chapter seven, 44–47.

65 And Cavendish would agree. See for example *GNP*, 239.

66 More, *Enchiridion Metaphysicum*, "The True Notion of a Spirit," 218.

67 Plato, *Phaedo*, 116–117.

68 Descartes, The Sixth Meditation, CSM2: 59.

69 Cavendish subscribes to an atomist conception of body in her earliest writings, but she abandons the view very quickly, and in the bulk of her corpus she subscribes to the view that bodies are always further divisible. See for example Detlefsen (2006), 204–218; and Sarasohn (2010), ch. 2.

70 *PL*, 143.

71 See for example *The Immortality of the Soul*, 57–58.
72 These views will be discussed in chapters five and seven.
73 See also Duncan (2012), 397–398.
74 *The Immortality of the Soul*, 169.
75 Ibid., 172.
76 Ibid., 173.
77 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers."
78 *PL*, 167–168.
79 *PL*, 195.
80 *PL*, 167–168.
81 By the "teleology" of bodies I mean the aims and purposes that bodies can appear to be seeking when they behave in an organized manner – for example, the development of a seed into a full-grown plant. Cavendish is supposing that an obvious way to explain such goal-directed behavior is to posit that bodies engage in intentional activity.
82 See also Siegfried (2014), 65–66; and Broad (2011b), 460.
83 *PL*, 514.
84 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 27.
85 A caveat here is that Cavendish holds that strictly speaking not all matter thinks. Some matter is inanimate, but all matter is mixed together in such a way that it is never possible to extricate an amount of matter that is not also intelligent. There is a discussion of Cavendish's view on the different kinds of (intermixed) matter in chapter five.
86 Leibniz, *Monadology*, section 17. For similar reasoning, see Descartes, *Principles of Philosophy* I.53, CSM1: 210–211; and Malebranche, *Dialogues on Metaphysics and on Religion*, 6.
87 We could understand how the composite would come to have a new size and weight, for example – as a function of the size and weight of the added parts – but we could not understand how or why it would all of a sudden *think*.
88 *PL*, 108.
89 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 26.
90 *GNP*, 7.
91 *OEP*, 141–142.
92 *PL*, 481.
93 *OEP*, "Further Observations upon Experimental Philosophy," 46–47.
94 Note that More and other opponents of Cavendish agree that there occurs goal-directed behavior in nature; the disagreement is about what accounts for such behavior.
95 *OEP*, 181.
96 *PL*, 517.
97 Note that there is systematic pressure on Hobbes to draw the panpsychist conclusion as well, given the way in which he identifies sensation and motion (for example in *Leviathan*, I.vi.1–10, 27–29), but he resists the conclusion at all costs. See Duncan (2012), 392–394. Cavendish on the other hand is happy to conclude that rocks and trees, and the smaller bodies that compose them, are perceptive and intelligent.
98 *OEP*, "Further Observations upon Experimental Philosophy," 78.
99 *PPO*, 18.
100 *OEP*, "Further Observations Upon Experimental Philosophy," 41. See also *OEP*, 181, where Cavendish speaks of the way in which animals figure out how to secure food when they are hungry, even if they have just been born.
101 "Of the Spider," in *Poems and Fancies*, 151.
102 *PL*, 152–153.

103 "Of the Ant," *Poems and Fancies*, 103.
104 *NP*, 280–281.
105 *NP*, 281–282. See also *NP*, 284–285; *PL*, 40–43; *GNP*, 44; *WO*, 142; "A *Morall Discourse* betwixt *Man*, and *Beast*," *Poems and Fancies*, 102; "A *Discourse* of *Beasts*," *Poems and Fancies*, 105; "Of Fishes," *Poems and Fancies*, 105; "Of Birds," *WO*, 143–144; "Matrimonial Trouble A Comedy," in *Playes*, 463.
106 In holding that ants and bees and simpler bodies are intelligent, however, Cavendish is not necessarily supposing that they are self-aware, or even that they are conscious at all. As we will see, she will present arguments for the view that intelligent thinking is often unconscious and for the view that unconscious intelligence is a background pre-condition for the conscious variety of thinking with which we are most familiar.
107 An interesting question that arises is whether or not Cavendish thinks that we need to change our attitude toward the beings that surround us, if everything is intelligent and alive. She considers this worry: "no Stone can be said to feel pain as an Animal doth, or be called blind because it has no Eyes; for this kind of sense, as Seeing, Hearing, Tasting, Touching and Smelling, is proper onely to an Animal figure, and not to a Stone, which is a Mineral; so that those which frame an argument from the want of animal sense and sensitive organs, to the defect of all sense and motion; as for example, that a Stone would withdraw it self from the Carts going over it, or a piece of Iron from the hammering of a Smith, conclude, in my opinion, very much against the artificial rules of Logick" (*OEP*, "Further Observations upon Experimental Philosophy," 47). There will be a discussion of Cavendish on the proper stance toward the entities in our environment in chapters five and seven.
108 *PL*, 147.
109 *WO*, 176.
110 *PL*, 45. See also *PL*, 44.
111 David Hume, *Dialogues Concerning Natural Religion*, 75. There will be a further discussion of this comparison to Hume in chapter five. Note for now, however, that contra Cavendish, Hume does not suppose that non-human bodies tend to be intelligent. He argues that such bodies are capable of engaging in sophisticated and organized activity by means of a "faculty of order and proportion" that is left unexplained (ibid., 65).
112 Ralph Cudworth, *True Intellectual System of the Universe*, 679. See also *TISU*, 162.
113 *TISU*, 157.
114 Ibid.
115 Cudworth is not committed to the view that a person is conscious of nothing in such cases; indeed, a person might be reflecting on deep philosophical issues, without paying any attention to their other behaviors (walking, etc.).
116 *WO*, "Epistle," unnumbered page between pp. 26 and 27.
117 An opponent (of Cavendish) might insist that we would have to be conscious of all of our steps if we were to be able to notice such a breakdown. In the current day, she could easily respond that motion-detectors and other artifacts are able to detect things without being conscious, and human organisms are much more sophisticated still. In her own time, she would simply insist that there is much skillful behavior that is not being monitored by a conscious mind.
118 *OEP*, 181.
119 *PL*, 113–114.
120 *NP*, 625.
121 *PL*, 113–114.
122 See for example Skrbina (2005), chapter two.

123 See for Spinoza, *Ethics* Part II, propositions 4–32, and especially proposition 22 where Spinoza concludes that a human mind has ideas of all of the states of its body, but of course only a small number of these ideas are ever conscious. Spinoza argues that there exists a set of ideas – and really just a single comprehensive idea that admits of no division – that is a perfect map of the set of existing bodies, and a human mind is just the cluster of ideas that overlay the bodies that compose a particular human body. A given human mind thus has an idea of each and every thing that is occurring in its body, but Spinoza nowhere endorses the extremely implausible position that for any person all of these ideas are always conscious. He allows that much of our thinking is unconscious and that, although each of our ideas is identical to a veridical idea in the mind of God, we only notice some of the elements of our ideas, and not the unconscious bits that lie in between. Leibniz also argues that most of the ideas of a mind are unconscious. (See Leibniz, *Monadology*, sections 20–28.) One of the reasons that he offers is that God would have packed into creatures as much knowledge as possible – knowledge of the whole universe, in effect – but since we are not conscious of all of that knowledge, there must be many cognitions of which we are not aware. Another reason that Leibniz presumably has in mind is grounded in the principle of sufficient reason (*Monadology*, section 32): every mental occurrence has a prior and sufficient cause that necessitates its effect, but our conscious mental life is consistent with the production of a plurality of mental outcomes, so there must be unconscious mental items to make up the difference.

124 *Fourth Replies*, CSM2: 171.

125 Descartes famously argues that there might be simple elements that produce our sensory perceptions, where the elements are very much unlike the objects as perceived; or it might be that our perceptions are produced by a deceiving God or evil demon. See the First Meditation, CSM2: 13–15.

126 The Second Meditation, CSM2: 16–17.

127 CSM2: 18.

128 At least not in any text.

129 Note that Michaelian (2009), 46–48, identifies as a kind of proprioception much of the knowledge that Cavendish attributes to finite creatures.

130 Martin Heidegger, *Basic Problems of Phenomenology*, 159.

131 *Basic Problems of Phenomenology*, 123.

132 Ibid., 158–159.

133 Noteworthy perhaps is that when philosophers present Descartes' view on the primacy of the reflective *I* to individuals from non-Western cultures, they often express puzzlement and disbelief. Heidegger and Cavendish might point to this (anecdotal) evidence as partial support for their view, if non-Western cultures make up a large part of the human population. See, for example, the discussion in Struhl (2010), esp. section 3.

134 Hume, *A Treatise of Human Nature*, I.i.7, 24.

135 "Of small Creatures, such as we call Fairies," *Poems and Fancies*, 162.

136 Malebranche makes this point also, though to different effect. See *The Search After Truth*, III.ii.5, 228–229.

137 But Cavendish would still be happy with the description that we have authored the thought, so long as we include unconscious faculties as part of the self.

138 *Poems and Fancies*, 164.

139 "To All Writing Ladies," *Poems and Fancies*, page unnumbered.

140 *PL*, 500–501.

141 *Principles of Philosophy* I.9, CSM1: 195.

142 See for example *Discourse on the Method*, Part Five, 139–141.

143 There will be a discussion of the exact breakdown for Cavendish in chapter five.
144 However, she would insist that the practical consequences of not securing the result that matter thinks, or that we cannot speak of God, are enormous.
145 See also James (1999), 222–223.
146 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 15–16. See also *PL*, 222: "there is also a soul in every Creature; nay, not onely in every Creature, but in every particle of every Creature, by reason every Creature is made of rational and sensitive Matter; and as all Creatures or parts of Nature are but one infinite body of Nature, so all their particular souls and lives make but one infinite soul and life of Nature…"
147 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 16. Note that Cudworth also speaks in terms of laws of nature that reduce to the intelligence that guides bodies, but for him laws reduce to immaterial "plastick nature." See *TISU*, 151.
148 See also Hutton (1997b), 96–99.
149 Plato, *Phaedo*, 142, 101–103.
150 St. Augustine, *On Free Choice of the Will*, 19, 27.
151 Plotinus, "On Beauty," I.6, 37.
152 Ibid., 40.
153 Ibid., 39.
154 Cudworth, *TISU*, 858. See also Descartes, "To Princess Elizabeth, 15 September 1645," CSMK 262–265.
155 Cavendish indeed runs into difficulties with respect to the associations that her view calls to mind. She is aware that even philosophers who agree with her that all thinking is imagistic might still hold that bodies are low-grade and unimpressive. Such philosophers would simply downgrade thinking and argue that it is not as exalted as we might have assumed. See for example *OEP*, "Further Observations upon Experimental Philosophy," 35.
156 *PL*, 180.
157 *PL*, 3. This passage is an interpretive key that Cavendish is offering for any text in which she appeals to God's nature in an argument for a philosophical conclusion. The passage calls to mind the similar passage in which Malebranche offers a guideline for how to read the many sentences in his corpus in which he speaks of animals as sensing and perceiving, given that there are other passages in his corpus in which he is clear that strictly speaking animals can do no such thing. (See *Elucidations of the Search After Truth*, Elucidation Fifteen, 672–673.) Malebranche notes that there are far fewer of the latter passages, but insists that we are not to isolate his final position by adding up the numbers of passages on each side: if we did, we would falsely conclude that he holds that animals *do* sense and perceive. Malebranche says instead that the sentences in which he says that animals do not sense are to be used as a kind of guide or map or legend – a kind of meta-sentence for interpreting the other sentences. He says that in those cases in which he expresses that animals do sense, he is just speaking in common parlance, and he does not want to go the trouble of qualifying his view each and every time. See also Cunning (2003), 356–357.
158 A number of commentators hold that although Cavendish says that we can have no idea of God's essence, she still grounds philosophical conclusions in arguments that incorporate assertions about His essence. See for example Detlefsen (2009), 431–432, 434; Siegfried (2014), 73–75; and Fitzmaurice (2014), 90–92. Other commentators note that Cavendish holds that metaphysics and religion should be kept apart, but without offering an account of why theistic premises appear in some of Cavendish's metaphysical arguments. See for example Broad (2007), 500–501.

159 *PL*, 149–150.
160 *OEP*, "Further Observations upon Experimental Philosophy," 26.
161 *PL*, 194–195. See also *OEP*, "Further Observations upon Experimental Philosophy," 43–44.
162 *PL*, 215.
163 *PL*, 198–199.
164 See for example Leibniz, *Monadology*, sections 1–3; and Conway, *The Principles of the Most Ancient and Modern Philosophy*, chapter seven.
165 However, Conway's conception of mind is more along the lines of More, where immaterial thinking can be extended and partake of motion. See *The Principles of the Most Ancient and Modern Philosophy*, 49.
166 For the view in Descartes, see the Third Meditation, CSM2: 33. There is no single explicit endorsement of occasionalism in Boyle's writings, but a number of the passages considered together paint a very suggestive picture. See Antsey (1999), 57–81.
167 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 30.
168 *OEP*, "Further Observations Upon Experimental Philosophy," 24.
169 *OEP*, "Further Observations Upon Experimental Philosophy," 61.
170 *PL*, 519.
171 *PL*, 138. See also *PL*, 318.

3

IDEAS OF GOD AND OTHER IMMATERIALS

Cavendish holds that ideas are imagistic pictures and that we do not have ideas of entities that a picture is not able to depict. She makes sure to apply her view to the case of two of the entities that philosophers are most wont to discuss – finite human minds, and God. She also takes issue with putative ideas of immaterials that are given voice in the sciences and medicine. We do not have ideas of these, Cavendish thinks, and we cannot speak meaningfully of them. In some instances, she argues, we are not thinking anything when we report that we are entertaining an idea of an immaterial. In other instances, we *are* thinking something, but our ideas are not of immaterials; they instead are of bodies that can be pictured. Cavendish provides the latter analysis in particular to imagistic ideas that we report to be of God but are not, and to vivid and imagistic ideas of heaven and hell. The latter ideas are of physical places, and ideas of the punishments and rewards that we take to occur in the afterlife are mundane as well. We do not have ideas of immaterials, Cavendish argues, but she does allow that in some cases we are able to have mental states that are directed at immaterials. These are not ideas; she will in some passages identify them as "notions." She does not explain how such mental states refer to their objects, or how we are in a position to identify their objects, but for reasons of piety she assumes that they exist. Otherwise we would not be able to so much as believe in the existence of God.

No ideas of immaterials, and no idea of God

Cavendish makes clear in numerous passages that a human mind can have no idea or conception of an immaterial. She writes,

> But as for Immaterial, no mind can conceive that, for it cannot put it self into nothing, although it can dilate and rarifie it self to an higher degree, but must stay within the circle of natural bodies…[1]

> some Learned Persons are of opinion, That there are Substances that are not Material Bodies. But how they can prove any sort of Substance to be no Body, I cannot tell: neither can any of Nature's

> Parts express it, because a Corporeal Part cannot have an Incorporeal Perception.[2]
>
> Art cannot… express what is not in Nature, or what is beyond Nature; as to *trace the Visible* (or rather Invisible) *footsteps of the divine Councel and Providence,* or to demonstrate things supernatural, and which go beyond mans reach and capacity.[3]

A fundamental tenet in the epistemology of Cavendish is that ideas are imagistic pictures. Here she is applying the tenet to yield the conclusion that there can be no ideas of immaterials. She draws the conclusion in particular that we can have no idea of God:

> a finite Creature can have no Idea or conception of Infinite.[4]
>
> the minde, which is the matter creates thoughts, which thoughts, are the figures of the minde; for when we hear of a deity, we say in words it is an incorporeal thing; but we cannot conceive it so in thought, we say we do…[5]
>
> neither can I conceive how an immaterial can have a form, not having a body; wherefore it is more impossible for Nature to make a picture of the Infinite God, then for Man, which is but a part of Nature, to make a picture of infinite Nature…[6]
>
> as for the Idea of God, it is impossible to have a corporeal Idea of an infinite incorporeal Being; …[the finite parts of Nature] cannot possibly pattern or figure him, he being a Supernatural, Immaterial, and Infinite Being…[7]

Cavendish appreciates the apparent heresy of the conclusion that we have no idea of God, and she qualifies the conclusion in two ways. First, she notes that she does not hold that God does not exist, only that we cannot have an idea of Him. Second, she argues that the conclusion that we cannot have an idea of God is more pious than the view that we *can*. What many of us report to be an idea of God is an imagistic picture that falls far short of divinity, she thinks, and the assertion that God is beyond our ability to conceive of Him is more respectful of His infinitude and transcendence.

As we saw in chapter two, Cavendish does not deny the existence of immaterial entities; she just subscribes to the view that we cannot have ideas of such entities or have any clear sense of what we might be talking about when we attempt to speak of them. One of her reasons for this view is that an immaterial entity cannot be depicted in a picture. Another reason is that immaterial things cannot be perceived or detected by our cognitive faculties. Our sense organs do not come into contact with immaterial entities, and we do not form ideas that are imagistic copies of them. If immaterial entities in

fact exist, they are nothing to us, and if we do detect and form an idea of an entity, the entity is not an immaterial:

> for what Objects soever, that are subject to our senses, cannot in sense be denied to be Corporeal.[8]
>
> WHatsoever is Corporeal, is Perceivable; that is, may be perceived in some manner or other, by reason it hath a Corporeal Being: but, what Being an Immaterial hath, no Corporeal can perceive. Wherefore, no Part in Nature can perceive an Immaterial, because it is impossible to have a perception of that, which is not to be perceived, as not being an Object fit and proper for Corporeal Perception. In truth, an Immaterial is no Object, because no Body.[9]

Cavendish supposes (as foundational) that material bodies exist and that material things interact with material things only. If there are other beings aside from material bodies, they are things of which we cannot think, things of which we cannot speak, and things that are not within the domain of human enquiry. We might use the term "immaterial spirit" and report that we have an idea of an immaterial, but we would be mistaken. She remarks (in the passage immediately above) that immaterial entities are not even picked out by our word "object." That word is a part of our language, and can only be a stand-in for a body.

Cavendish wants to allow that we are able to make at least *some* claims about immaterials, however. She says of immaterials that they might exist, for example, and that they are things of which we cannot speak. In other passages she says of immaterials that if they do exist they are no part of Nature:

> The Spiritual or Divine Soul in Man is not Natural, but Supernatural, and has also a Supernatural way of residing in man's body; for Place belongs onely to bodies, and a Spirit being bodiless, has no need of a bodily place. But then they will say, That I make Spirit and *Vacuum* all one thing, by reason I describe a Spirit to be a Natural Nothing, and the same I say of *Vacuum;* and hence it will follow, that particular Spirits are particular Emptinesses, and an Infinite Spirit an Infinite *Vacuum.* My answer is, That although a Spirit is a Natural nothing, yet it is a Supernatural something…[10]
>
> there may be supernatural spiritual beings or substances in Nature, without any hinderance to Matter or corporeal Nature… Bodiless things, and so spiritual substances, although they may exist in Nature, yet they are not natural, nor parts of Nature, but supernatural, Nature being meerly corporeal, and Matter the ground of Nature; and all that is not built upon this material ground, is nothing in Nature.[11]

> If man were an Incorporeal Spirit himself, he might, perhaps, sooner conceive the essence of a Spirit, as being of the same Nature; but as long as he is material, and composed of Natural Matter, he might as well pretend to know the Essence of God, as of an Incorporeal Spirit… You will say, perhaps, That the divine Soul in Man is a Spirit: but I desire you to call to mind what I oftentimes have told you, to wit, that when I speak of the Soul of Man, I mean onely the Natural, not the Divine Soul; which as she is supernatural, so she acts also supernaturally; but all the effects of the natural Soul, of which I discourse, are natural, and not divine or supernatural.[12]

Cavendish is walking a very delicate line here. On the one hand, she wants to allow that there might be supernatural immaterial souls that are in some sense affixed to our bodies, but she also wants to insist that the souls with which we are familiar, and which move with our bodies and come into contact with them, are material.[13] Cavendish thus says of "Man, which is but a part of Nature,"[14] that as long as "he is material, and composed of Natural Matter," he can have no idea of an immaterial. That is, the material beings that we are cannot have ideas of the immaterials to which we might be affixed. She writes,

> Natural reason cannot know nor have naturally any perception or Idea of an Incorporeal being…[15]
>
> for no imagination can be without figure, and how should an Immaterial created substance present such Figures, but by making them either in it self or upon matter?[16]

Cavendish is not here denying that *immaterial* reason can have an idea of an immaterial, but of course immaterial reason is something of which we cannot speak either. Immaterials are not things that we can encounter, and not things of which we can form imagistic ideas. Whatever we do succeed in encountering or conceiving or talking about is a body:

> I wonder wise men will attribute bodily affections to immaterial beings, when as yet they are not able to conceive or comprehend them; by which they confound and disturb Nature, which knows of no Immaterials, but her Essence is Matter.[17]

Cavendish wants to be able to say that immaterial entities might exist, even if it is difficult to see how she can allow that embodied human cognitive faculties (her own included) could have the resources to say anything about them at all. We cannot go so far as to say that they are nothing, for they might exist, but they are not anything that we can detect or think or talk about.[18]

Cavendish thus supposes that we would be wise to be extremely measured in our claims about immaterial entities and that in particular we would be wise to refrain from making assertions about the incomprehensible nature of God.[19] She appeals here to her doctrine of imagistic ideas, but she also appeals to a tradition in Christianity in which God is regarded with such humility and admiration that no human mind could possibly understand Him:

> Wherefore if any man can prove (as I do verily believe he cannot) that God is not Incomprehensible, he must of necessity be more knowing then the whole Church, however he must needs dissent from the Church.[20]

> God and his Attributes are not conceiveable or comprehensible by any humane understanding, which is not onely material, but also finite; … no natural Creature is capable to conceive what God is; for he being infinite, there is also required an infinite capacity to conceive him; … Besides, the holy Church doth openly confess and declare the Incomprehensibility of God, when in the *Athanasian* Creed, she expresses, that the Father is Incomprehensible, the Son Incomprehensible, and the Holy Ghost Incomprehensible, and that there are not three, but one Incomprehensible God: Therefore, if any one will prove the contrary, to wit, that God is Comprehensible, or (which is all one) that God is as easie to be known as any Creature whatsoever, he surely is more then the Church: But I shall never say or believe so, but rather confess my ignorance, then betray my folly; and leave things Divine to the Church; to which I submit, as I ought, in all Duty…[21]

Other philosophers in the seventeenth century attempt to do justice to the datum that God is utterly incomprehensible, while still maintaining that we have an idea that represents Him. For example, Descartes posits that every human mind has an idea of God that reflects His infinitude, immutability, and eternality.[22] He does not offer an account of how the objective reality (or content) of a finite human idea could capture such features, however, and he concedes that our grasp of God's nature is incomplete – in (something like) the way that we can touch a mountain, but not wrap our arms around it.[23] Descartes thereby leaves us wondering how we can tell that our idea of God has the content that he says it does, and how we can tell that it is an idea of God and not something less. Malebranche argues that an idea that captures the essence of a supremely perfect being could only reside in an infinite mind and that therefore finite minds are literally interfaced with the mind of God. Cavendish would worry here about the lengths to which Malebranche is willing to go to maintain that we have access to an idea that captures infinitude. She would also worry (again) about how we are able to tell that that idea is of infinitude if we are only able to notice so much of it. She would also worry about how the idea is supposed to be an *idea* if it involves no imagistic

picture. Cavendish thinks that the more pious position is that we do not have an idea of God and that the imagistic ideas that we describe as ideas of God are always of something else.

A notion of God?

Cavendish makes clear that we have no idea of God in the sense of an imagistic picture that depicts God, but she still wants to allow that there are mental states that are directed at God. In some passages she says that although we do not have an idea of God, we have something weaker – what we might call a "notion." She writes,

> But some may say, that, *A Corporeal may have a Conception, although not a Perception, of an Immaterial.* I answer, That, surely, there is an innate Notion of God, in all the Parts of Nature; but not a perfect knowledg: for if there was, there would not be so many several Opinions, and Religions, amongst one Kind, or rather, sort of Creatures, as Mankind, as there are; insomuch, that there are but few of one and the same Opinion, or Religion: but yet, that Innate Notion of God, being in all the Parts of Nature, God is infinitely and eternally worshipped and adored, although after several manners and ways; yet, all manners and ways, are joyned in one Worship, because the Parts of Nature are joyned into one Body.[24]

Our notion of God, according to Cavendish, is not an imagistic picture that depicts God, but is of the universe as having a cause. As we have seen, Cavendish employs a number of axioms in the course of generating her larger system, and one of these is the axiom that something cannot come from nothing:

> [it is] impossible, to wit, that something should be made or produced out of nothing; for if this were so, there would consequently be an annihilation or turning into nothing…[25]

Our notion of God is not an imagistic picture that is able to depict God's incomprehensible nature. However, we can have an (imagistic) idea that more or less represents the material universe – Cavendish is supposing that this is somehow possible – and that depicts the universe as being dependent. This is an idea of the universe as having a cause,[26] but it does not depict God and so is not an idea of God, but only a notion. Cavendish supposes that this mental state is directed at God in the sense that it is directed at whatever it is on which the universe depends for its existence:

> [God is] onely an over-ruling power, which power all the parts of Nature are sensible of, and yet know not what it is; like as the

perception of Sight seeeth the ebbing and flowing of the Sea, or the motion of the Sun, yet knows not their cause; and the perception of Hearing hears Thunder, yet knows not how it is made; and if there be such ignorance of the corporeal parts of Nature, what of God?[27]

Wherefore the notions of God can be no otherwise but of his existence, to wit, that we know there is something above Nature, who is the Author and God of Nature…[28]

> Natures knowing parts, both sensitive and rational, do believe a God, that is some Being above Nature…[29]
>
> That no part of Nature can or does conceive the Essence of God, or what God is in himself; but it conceives onely, that there is such a Divine Being which is Supernatural: And therefore it cannot be said, that a natural Figure can comprehend God; for it is not the comprehending of the Substance of God, or its patterning out, (since God having no Body, is without all Figure) that makes the knowledg of God; but I do believe, that the knowledg of the existency of God, as I mentioned before, is innate, and inherent in Nature, and all her parts…[30]

One of Cavendish's reasons for thinking that we have a mental state that is directed at God is that we have an idea of the universe as having a cause: God is "some Being above Nature," "an over-ruling power," "something above Nature, who is the Author and God of Nature."

Another reason is that she supposes that finite minds at the very least are capable of having a belief in the existence of God:

> God forbid, I should deny, that God is a Spiritual Immaterial substance, or Being; neither do I deny that we can have an Idea, notion, conception, or thought of the Existence of God; for I am of your *Authors* opinion, That there is no Man under the cope of Heaven, that doth not by the light of Nature, know, and believe there is a God…[31]

Cavendish wants to be able to say that we are capable of a pious faith, and that we can believe in the existence of God, and thus that we can have a mental state that is directed at God. For Cavendish, this is a mental state that is directed at whatever it is that has caused the universe, and if we attempt to conjure an imagistic idea that captures what that cause actually is, we will end up having an idea of some part of the universe instead. We are not able to read from our notion of God any of the details about what the cause of the universe is or might be, and we would be wise to rein in our assertions accordingly:

> a particular Creature knows there is a *GOD*; yet, not what *GOD* is….[32]

> Natural Philosophy proves a God, yet it proves no particular Religion.[33]

We might worry that Cavendish should refrain from saying that a mental state that is directed at the cause of the universe is a notion *of God*. However, she understands the notion of God very reductively and in a way that is meant to call attention to His transcendence and incomprehensibility.

God and nature

A possible wrinkle for the notion of God that Cavendish posits is that she also subscribes to the view that the material universe is eternal.[34] We will consider her reasons for this view more fully in chapter four (on the eternal plenum), but for now it is important to note that when she says that our notion of God is directed at whatever it is that produces the universe, she holds at the same time that the universe has always been. That is, her view that the universe has a cause for its existence is not the view that the universe has a cause for its *coming* into existence. Instead, nature requires a cause in the sense that it is a dependent. She writes,

> the perceptions which we have of the Effects of Nature, may lead us to some conceptions of that Supernatural, Infinite, and Incomprehensible Deity, not what it is in its Essence or Nature, but that it is existent, and that Nature has a dependance upon it, as an Eternal Servant has upon an Eternal Master.[35]
>
> Nature, although she be Infinite and Eternal, yet she depends upon the Incomprehensible God, the Author of Nature, and his All-powerfull Commands, Worshipping and Adoring him in her infinite particulars; for God being Infinite, must also have an infinite Worship; and if Nature had no dependance on God, she would not be a servant, but God her self.[36]

In the first passage, Cavendish assumes that nature is a creature that owes its existence to a being that is outside of nature and distinct from it. In the second passage she allows that if infinite and eternal nature was not a dependent, it would be God itself. She is similarly suggestive in one of her plays:

> Man may perceive an Infinite power, by the perfect distinctions of all particular varieties, by the orderly production of several Creatures, and by the fit, and proper shapes of every several kind of Creature; by their orderly Births, by the times and Seasons, to produce, flourish, and decay… there is onely one absolute power, and wise disposer,

> that cannot be opposed, having no Copartners, produces all things, being not produced by any thing, wherefore must be Eternall, and consequently infinite; this absolute, wise, and Eternal power Man calls God…[37]

Cavendish makes explicit in the earlier passage that if nature were not dependent on God, then God and nature would be identical. We know that she holds that nature is extremely sophisticated and impressive; what she reflects in the above passage is that eternal and infinite nature involves so much perfection and sophistication that the only being that could have produced it is the "absolute, wise, and Eternal power Man calls God."[38] Cavendish nowhere provides any reason or argument for the view that nature is a creature or dependent, and so it is tempting to explore the possibility that she is not wedded to that view. That is, it is tempting to explore the possibility that in her view nature is not a dependent, nature and God coincide. The features that Cavendish attributes to nature are so exalted that the only being that could have brought them about is a supreme being: she is within a hair of the view that nature is just as majestic and powerful as God and that the two in fact are one and the same. Some interpretive options to consider are (1) that she takes it to be axiomatic that nature is a dependent, end of story; (2) that she is on the fence about whether God and nature are not distinct, but for reasons of piety she leans in the direction of the view that they are; and (3) that she takes God and nature to be identical.

Given that Cavendish makes other foundational suppositions in generating her metaphysics, it would not be shocking if she took as axiomatic that nature has a cause. Perhaps what she takes as axiomatic is that the material universe could have been very different than it is, or even just slightly different; if so, she might be supposing that there must be a cause to account for why there exists the current universe and not some other. This line of thinking is common in the history of philosophy – in earlier figures like Aquinas, and shortly after Cavendish, in Leibniz.[39] She nowhere offers this line of thinking explicitly, however, and as we will see in chapter four, there is reason to think that she holds that the existence of the current universe is in fact necessary, along with the moment-to-moment unfolding of the bodies that compose it. In the end, Cavendish does not offer a separate argument for the view that the universe is a dependent and requires a separate cause. If that is her view, she supposes it as foundational.

The second and third interpretive options are speculative but also enticing – especially given that Spinoza holds that everything that exists is either God or in God,[40] and given that Cavendish and Spinoza are both building upon principles of Descartes' philosophy and using them to generate conclusions that Descartes himself resisted.[41] Some of the specific claims that Cavendish makes about the similarities between God and nature are striking. For example, she says that nature as a totality is God-like:

> This *Innate Matter* is a kind of *God,* or *Gods* to the *dull part of Matter,* having power to forme it, as it please: and why may not *every degree* of *Innate Matter* be, as severall *Gods,* and so a *stronger Motion* be a God to the *weaker,* and so have an *Infinite,* and *Eternall Government?* [42]

No individual body is particularly powerful relative to all of the others, Cavendish will have to admit, but nature has a lot of power collectively. There are other passages in which Cavendish equates matter with divinity as well:

> IF it be, as some say, that the First Matter was from all Eternity, it is a Deity; and God, the Order of Nature from all Eternity: For what had no begining, sure is a Deity.[43]

As we will see, Cavendish holds that matter is eternal, and here she is saying that whatever is eternal is a deity. In another passage, she says that nature is the only true goddess and that other deities are a matter of human invention. She writes,

> wherefore serve Nature, for she is the only and true Goddess, and not those that men call upon, as *Jupiter, Juno,* and a hundred more, that living-men vainly offer unto, being only Men and Women which were Deified for Invention, and Heroick Actions: for unto these dead, though not forgotten Gods and Goddesses (as they are called through a Superstitious Fear, and an Idolatrous Love to Ceremony, and an Ignorant Zeal to Antiquity), Men fruitlesly pray: But Nature is the only true Goddess, and no other; wherefore follow her Directions, and you shall never do amiss: for, we that are old, said she, are Nature's Priests, and being long acquainted with her Laws and Customs, do teach Youth the best ways to serve her in.[44]

She says in yet another text that nature has a tremendous amount of power, but is *distinct* from God. She writes,

> Neither doth it argue that Nature is above God, or at least God-like; for I do not say, that Nature has her self-moving power of her self, or by chance, but that it comes from God the Author of Nature; which proves that God must needs be above Nature, although Nature is Infinite and Eternal…[45]

This passage is no doubt expressing that nature and God are distinct. What is noteworthy, however, is that one of the reasons that Cavendish feels the need to elaborate on her position – and to clarify that "Neither doth it argue" that nature is above God or God-like – is that her descriptions of nature depict it as so impressive. It is the sort of thing that only a divinity could produce, to the point where the gap between nature and God comes very near to closing.

In a further passage, she recognizes the tension in asserting that the universe is eternal and has a cause, and says that God *may* be above matter:

> I am of this opinion, the last Chapter of my Book of Philosophy will enform you, where I treat of the Deitical Centre, as the Fountain from whence all things do flow, and which is the supream Cause, Author, Ruler and Governor of all. Perhaps you will say, it is, because I make Matter Eternal. Tis true, *Madam,* I do so: but I think Eternity doth not take off the dependance upon God, for God may nevertheless be above Matter, as I have told you before. You may ask me how that can be? I say, As well as any thing else that God can do beyond our understanding: For I do but tell you my opinion, that I think it most probable to be so, but I can give you no Mathematical Demonstrations for it: Onely this I am sure of, That it is not impossible for the Omnipotent God; and he that questions the truth of it, may question Gods Omnipotency. Truly, *Madam,* I wonder how man can say, God is Omnipotent, and can do beyond our Understanding, and yet deny all that he is not able to comprehend with his reason.[46]

Cavendish says in a number of passages that nature is dependent and that there is a being above and beyond nature that is its cause. She also makes clear throughout her corpus that nature is sufficiently intelligent and sophisticated and impressive that the only sort of entity that could be its cause is a divinity. In some passages, she speaks of nature as a divinity straightaway. A question is whether she is of two minds on the issue, or whether she inclines toward the view that nature and God are one.[47] If the latter, her claim that nature is a dependent would be a matter of piety and caution.

There is finally the passage in which Cavendish speaks of God as an entity that exists only in our thought. If she takes God to exist only in our thought, she does not reduce God to nature, but eliminates God altogether. She writes,

> It is very pleasing, whilst as man lives, to have in his Mind, or in his Sense, the Effigies of the Person, and of the good Actions of his Friend, although he cannot have his present company. Also, it is very pleasant to any body to believe, that the Effigies either of his own Person, or Actions, or both, are in the Mind of his Friend, when he is absent from him; and, in this case, Absence and Death are much alike. But, in short, God lives no other ways amongst his Creatures, but in their Rational Thoughts, and Sensitive Worship.[48]

This passage is certainly suggestive, at least in conjunction with the passages in which Cavendish identifies nature as a deity. In those passages, she is expressing that what exists is nature and that it is a deity, but here she might appear to be suggesting that what exists is nature and that we should call it

that alone. We should note, however, that this latter passage admits of at least a couple of different interpretations. Cavendish might be denying the existence of a being that transcends nature, but she might also be reflecting that God is transcendent and hence is causally and otherwise removed from us. She writes for example that

> there is great difference between them, for it is one thing a Deitical or Divine Infinite, and another a Natural Infinite; You know, that God is a Spirit, and not a bodily substance, again that Nature is a Body, and not a Spirit, and therefore none of these Infinites can obstruct or hinder each other, as being different in their kinds… a Natural Infinite, and the Infinite God, may well stand together, without any opposition or hinderance, or without any detracting or derogating from the Omnipotency and Glory of God; for God remains still the God of Nature, and is an Infinite Immaterial Purity, when as Nature is an Infinite Corporeal Substance; and Immaterial and Material cannot obstruct each other. …And the disparity between the Natural and Divine Infinite is such, as they cannot joyn, mix, and work together, unless you do believe that Divine Actions can have allay.[49]

Cavendish appears to subscribe to the deistic view that God plays no role in the day-to-day unfolding of the universe,[50] and that might be what she is reflecting when she says that God lives in no other way among his creatures than in our thought.[51] Alternately, or perhaps even in addition, she might be advancing the claim we would be better off if God's role in human life were restricted to our thought, and to prayer, and did not reach all the way to enthusiastic or inspired action:

> if there be so great a difference between God's Understanding, Will and Decree, and between Natures, as no comparison at all can be made betwixt them, much more is there between a part of Nature, *viz.* Man, and the Omnipotent and Incomprehensible God; for there is an Infinite difference between Divine Attributes and Natural Properties; wherefore to similize our Reason, Will, Understanding, Faculties, Pasions, and Figures, *&c.* to God, is too high a presumption, and in some manner a blasphemy… But many Writers endeavour rather to make divisions in Religion, then promote the honour and worship of God by a mutual and united agreement, which I confess, is an irregularity and imperfection in some parts of Nature, and argues, that Nature is not so perfect but she has some faults and infirmities, otherwise she would be a God, which she is not.[52]

Cavendish leaves open in some passages that God and nature coincide, but she expresses the contrary position as well. Her final position is perhaps that

God and nature are distinct, but that our epistemic limitations make it impossible for us to draw a very clear demarcation between the two.

Humility, piety, and respect

Cavendish argues that because our notion of God is so minimal, the appropriate stance to have toward God is an amorphous respect and admiration. We are not wise to devote cognitive energy toward attempts to understand God, if it is not certain that our thought would even be directed at Him, and we would be better off to focus attention instead on matters within our reach. In a poem at the end of *Philosophical and Physical Opinions*, she writes,

> O pardon Lord, for what, I now hear speak
> Upon a guesse, my knowledge is but weak;
> But thou hast made such creatures as mankinde,
> And gav'st them somthing which we cal a mind,
> Alwayes in motion, never quiet lies,
> Untill the figure, of his body dies,
> His several thoughts, which several motions are
> Do raise up love, hope, joyes, doubts and feare;
> As love doth raise up hope, so fear doth doubt,
> which makes him seek to find the great God out:
> Self love doth make him seek to finde, if he
> Came from, or shall last to eternity;
> But motion being slow, makes knowledge weak,
> And then his thoughts 'gainst ignorance doth beat,
> As fluid waters 'gainst hard rocks do flow,
> Break their soft streams, & so they backward go:
> Just so do thoughts, & then they backward slide,
> Unto the place, where first they did abide;
> And there in gentle murmurs, do complain,
> That all their care and labour is in vain;
> But since none knows, the great Creator must,
> Man seek no more, but in his greatness trust.[53]

The language at the end of the poem is striking – "the great Creator must Man seek no more…." Earlier in the poem Cavendish references our tendency to seek answers to questions that are beyond us, and her recommendation (from chapter one) is that we channel our energies elsewhere. One of her motivations in the case of questions about God and God's nature is her doctrine of imagistic ideas: we have no idea of God from which we can read off His nature, and our notion of God is directed at the cause of the eternal universe, whatever that turns out to be. But Cavendish is also guided by cynicism. She is concerned that when human beings do weigh in on matters of divinity, we reveal more about ourselves than anything else:

> Man in this particular goes beyond others, as having not onely a natural, but also a revealed knowledg of the most Holy God; for he knows Gods Will, not onely by the light of Nature, but also by revelation, and so more then other Creatures do, whose knowledg of God is meerly Natural. But this Revealed Knowledg makes most men so presumptuous, that they will not be content with it, but search more and more into the hidden mysteries of the Incomprehensible Deity, and pretend to know God as perfectly, almost, as themselves; describing his Nature and Essence, his Attributes, his Counsels, his Actions, according to the revelation of God, (as they pretend) when as it is according to their own Fancies. So proud and presumptuous are many: But they shew thereby rather their weaknesses and follies, then any truth; and all their strict and narrow pryings into the secrets of God, are rather unprofitable, vain and impious, then that they should benefit either themselves, or their neighbor… Wherefore, in my opinion, the best way is humbly to adore what we cannot conceive, and believe as much as God has been pleased to reveal, without any further search; lest we diving too deep, be swallowed up in the bottomless depth of his Infiniteness: Which I wish every one may observe, for the benefit of his own self, and of others, to spend his time in more profitable Studies, then vainly to seek for what cannot be found.[54]

> the Opinions Men have of *Jove,* are according to their own natures, and not according to the nature of *Jove,* which makes such various Religions, and such rigorous Judgment in every Religion, as to condemn all but their own Opinion; which Opinions are so many and different, as scarce any two agree; and every Opinion judges all damned but their own…[55]

> for how ordinary is it in these our times, and in former times, for the politicks to perswade the people, with promises from the Gods, or to tell them it is the Gods commands they should do such and such

acts, even such acts as are unnatural, wicked, and most horrid? thus Men bely the Gods to abuse their fellow Creatures.[56]

your *Author* doth speak so presumptuously of Gods Actions, Designs, Decrees, Laws, Attributes, Power, and secret Counsels, and describes the manner, how God created all things, and the mixture of the Elements to an hair, as if he had been Gods Counsellor and Assistant in the work of Creation…[57]

Cavendish takes a cynical view of human tendencies and supposes that most of those who proclaim to know God's will and nature are just working to serve their own self-interest. We might promulgate a conception of God that is in line with our personal pursuits and projects, for example, and then insist that these are God's pursuits and projects and that we are His proxies on earth. We might advertise that we are implementing His will and bidding, but Cavendish supposes that all things divine are in fact cut off from us.

Cavendish is also concerned that if we insist that we know the will of God, we might take on the job of enforcer ourselves: we might harm or kill individuals whom we regard as operating counter to God's will, or whom we regard as agents of the devil. If our ideas of "God" and the devil are imagistic pictures, and our passion is of the regular human variety, such behavior is driven by other factors instead. Cavendish writes,

these Motions, being sometimes unusual and strange to us, we not knowing their causes, (For what Creature knows all motions in Nature, and their ways.) do stand amazed at their working power; and by reason we cannot assign any Natural cause for them, are apt to ascribe their effects to the Devil; but that there should be any such devillish Witchcraft, which is made by a Covenant and Agreement with the Devil, by whose power Men do enchaunt or bewitch other Creatures, I cannot readily believe. Certainly, I dare say, that many a good, old honest woman hath been condemned innocently, and suffered death wrongfully, by the sentence of some foolish and cruel Judges, meerly upon this suspition of Witchcraft, when as really there hath been no such thing; for many things are done by slights or juggling Arts, wherein neither the Devil nor Witches are Actors. And thus an English-man whose name was *Banks,* was like to be burnt beyond the Seas for a Witch, as I have been inform'd, onely for making a Horse shew tricks by Art; There have been also several others; as one that could vomit up several kinds of Liquors and other things: and another who did make a Drum beat of it self. But all these were nothing but slights and jugling tricks; as also the talking and walking Bell; and the Brazen-Head which spake these words, *Time was, Time is,* and *Time is past,* and so fell down;

> Which may easily have been performed by speaking through a Pipe conveighed into the said head: But such and the like trifles will amaze many grave and wise men, when they do not know the manner or way how they are done, so as they are apt to judg them to be effected by Witchcraft or Combination with the Devil. But, as I said before, I believe there is Natural Magick; which is, that the sensitive and rational Matter oft moves such a way, as is unknown to us.[58]

Cavendish is quite cynical about the motivations of human beings who identify as agents of God. Such individuals might assert that they are acting for a higher purpose, but their motivation in the end is often to acquire power and then subordinate others.[59] They might not *report* that this is their motivation, but Cavendish would appeal to her theory of ideas and insist that there is a fact of the matter about what is driving them and that in most cases their ideas are not directed at anything divine. As we will see in (a very different discussion in) chapter seven, she does encourage the creative activity of crafting ideas at will – in part because it provides a pleasant alternative to events over which we have less control – but religion is a different stage entirely:

> I conclude, and desire you, not to interpret amiss this my discourse, as if I had been too invective against Poetical Fancies; for that I am a great lover of them, my Poetical Works will witness; onely I think it not fit to bring Fancies into Religion: Wherefore what I have writ now to you, is rather to express my zeal for God and his true Worship, then to prejudice any body…[60]

Cavendish worries that our attempts to zero in on God and His decrees are just veiled attempts to dominate. If we invest in any specific theology, we might assume that God is on our side and become far more confident than the subject matter permits.[61] She sees non-human animals again as a model:

> Beasts seek not after vain Desires, or Impossibilities, but that which may be had; they do not backbite or slander; they raise not false Reports, their Love is as plain as Nature taught; they have no seeming Grief; they make no Sacrifice to false Gods, nor promise Vows they never perform; they teach no Doctrine to delude, nor worship Gods they do not know.[62]

Cavendish encourages a pious and minimal faith, but that is all. She admires non-human animals, and she speaks of the humble but atheistic human in favorable terms as well:

> IT is better, to be an Atheist, then a superstitious man; for in Atheisme there is humanitie, and civility, towards man to man; but

> superstition regards no humanity, but begets cruelty to all things, even to themselves.[63]

An atheist is not driven by their recognition of the specific demands of God, but a theist isn't either. Given her epistemology and her theory of ideas, Cavendish is committed to saying that in many cases there is little difference between the humble theist and the self-described atheist who exhibits the same overt behavior.

Cavendish supposes that we are never in a position to speak to God's nature, except to say that it is something that is exemplified. She has similar reservations with respect to our ability to think or communicate about finite immaterial souls. We have no ideas of these, and we have no business speaking of them:

> TOuching the State or Condition of the Supernatural and Divine Soul, both in, and after this life, I must crave your excuse that I can give no account of it; for I dare affirm nothing; not onely that I am no professed Divine, and think it unfit to take any thing upon me that belongs not to me, but also that I am unwilling to mingle Divinity and Natural Philosophy together, to the great disadvantage and prejudice of either; for if each one did contain himself within the circle of his own Profession, and no body did pretend to be a Divine Philosopher, many absurdities, confusions, contentions, and the like, would be avoided, which now disturb both Church and Schools, and will in time cause their utter ruine and destruction; For what is Supernatural, cannot naturally be known by any natural Creature.[64]
>
> Concerning the divine Soul, I do not treat of it…[65]

Cavendish is committed to the view that we have no ideas of immaterials, infinite or finite. She wants to allow that finite immaterial spirits might exist, but as we have seen she also wants to insist that the minds of which we are speaking while we are embodied – and when we are doing philosophy in the here and now – are material. The minds that we are talking about when we do philosophy are things that interact with our bodies, that move with our bodies from place to place, and that have imagistic ideas. *Those* minds are material, and whatever other kind of soul or mind we might have is not something about which we can speak. Out of piety, she leaves such matters to the authority of the Church:

> Wherefore it is not probable, this Divine Soul, being not subject to Nature, should be an architect of the body, as having an higher and more divine imployment, *viz.* to fix her self on her Creator, and being indued with supernatural faculties, and residing in the body in a

supernatural manner; all which I leave to the Church: for I should be loth to affirm any thing contrary to their Doctrine, or the Information of the holy Scripture, as grounding my belief onely upon the sacred Word of God, and its true Interpretation made by the Orthodox Church; but not upon the opinions of particular persons: for particular mens opinions are not authentical, being so different and various, as a man would be puzled which to adhere to. Thus, *Madam,* I avoid, as much as ever I can, not to mix Divinity with Natural Philosophy; for I consider, that such a mixture would breed more confusion in the Church, then do any good to either; witness the doctrine of the Soul of Man, whereof are so many different opinions…[66]

As in the case of our inability to have an idea of an infinite immaterial God, Cavendish leaves open that we have some ability to refer to immaterial finite spirits, even if just to be able to claim that they might exist and that they are things about which we would be better off to remain silent.

Finite immaterial spirits v. finite material minds

There are some passages in which Cavendish goes further, however, and says that the notion of a finite spirit involves a contradiction. She writes,

> an Immaterial, in my opinion, must be some uncreated Being; which can be no other than GOD alone. Wherefore, Created Spirits, and Spiritual Souls, are some other thing than an Immaterial: for surely, if there were any other Immaterial Beings, besides the Omnipotent God, those would be so near the Divine Essence of God, as to be petty gods; and numerous petty gods, would, almost, make the Power of an Infinite God. But, God is Omnipotent, and only God.[67]
>
> to be against Natural Immaterial substances, I think, is no Atheisme, except we make them Deities; neither is it Atheisme to contradict the opinion of those, that believe such natural incorporeal Spirits, unless man make himself a God.[68]

In both of these passages Cavendish says (or at least implies) that for a spirit to be immaterial it has to be divine. She does not unpack her reasoning here, but she does state that any immaterial being would be "so near the Divine Essence of God" that it would be a god itself. One possible reconstruction of her thinking is this: if God is a perfect immaterial being, He would only create beings that are also perfect and immaterial, but in that case there would be some power and knowledge that is not attributed to God, "But God is omnipotent, and only God." This *might* be how Cavendish is reasoning, but as we have seen she holds that God in fact made intelligent bodies and that these do not

encroach on His intelligence and power. It is not clear why she would think that there would be an encroachment in the case of finite immaterial minds.

Another reconstruction of her thinking squares better with the claims that she makes elsewhere. Cavendish says in a number of passages that immaterial spirits (if they existed) would be indivisible and that, if so, they would not be able to have divided or partial representations of reality. As a substance, an immaterial mind would have *some* features, at the very least a single idea. The simplest of this mind's ideas would then be representative of reality – that is, if ideas are at root representational.[69] Any immaterial spirit would thus have at least *some* knowledge, but since there are no possible divisions or boundaries within an immaterial substance, immaterial spirits would always be omniscient. Cavendish writes,

> there is no better proof, that the mind of man is dividable, then that it is not perfectly knowing; nor no better proof that it is composeable, then that it knows so much: but all minds are not alike, but some are more composed then others, which is the cause, some know more then others; for if the mind in all men were alike, all men would have the same Imaginations, Fancies, Conceptions, Memories, Remembrances, Passions, Affections, Understanding, and so forth: The same may be said of their bodies; for if all mens sensitive parts were as one, and not dividable and composeable, all their Faculties, Properties, Constitutions, Complexions, Appetites, would be the same in every man without any difference; but humane sense and reason doth well perceive, that neither the mind, life nor body are as one piece, without division and composition.[70]

Cavendish supposes that if a spirit is immaterial, it is "perfectly knowing," but the knowledge of a finite embodied spirit is always partial and incomplete. In the case of an immaterial spirit, its ideas would represent some aspect of reality, but there is no point at which these ideas would be divided or separated from the ideas that represent the reality that is contiguous.[71] Cavendish does not offer an explicit argument for her claim that the only immaterial spirit is God, but she appears to generate it from an understanding of the indivisibility of immaterial beings and the impossibility that the ideas of an immaterial being could in any way be partitioned. Whatever her argument, she is going far beyond her suggestion in other passages that we ought refrain from speaking of immaterials and just leave the question of their nature and existence to the authority of the Church. She is saying instead that the notion of a finite immaterial is a contradiction.

Heaven, hell, and the afterlife

In some passages Cavendish encourages us to refrain from speaking of immaterials because we have no ideas of immaterials for which our terms

could stand in. Another approach that she takes to the language of immaterials is to allow that there are cases in which we report that an idea is of an immaterial, but we are mistaken. Rather than insist that we are not thinking anything when we say that we have an idea of an immaterial, Cavendish argues that in many cases we do have an idea – an imagistic idea – but one that we have mischaracterized. She writes:

> for they conceived their Gods, as we do men, to have Material Bodies, but an Immaterial Spirit, or [what] some Learned men imagine, to be an Immaterial Spirit, but to take several shapes, and so to perform several corporeal actions; which truly is too humble and mean a conception of an Immaterial Being, much more of the Great and Incomprehensible God…[72]

Here Cavendish is supposing that in cases in which we in fact have an imagistic idea, it is not an idea of God. It is instead an imagistic picture, and an imagistic picture of a body. If we object (perhaps after introspecting) that we *do* have imagistic ideas of God and other immaterials, she responds that we are correct that we have ideas in these instances, but are mistaken in the identification of their objects. She says more generally, and perhaps a bit ironically, that "our very thoughts and conceptions of Immaterial are Material, as made of self-moving Matter."[73]

Cavendish proposes a complementary analysis of ideas of heaven and hell and other places and things that are usually associated with an immaterial realm.[74] Her reasoning is that since our ideas of these depict features like shape, figure, location, and motion, they are ideas of bodies. The very fact that we can describe and conceive an entity is a sign that it is a body, Cavendish supposes, but she thinks that our ideas and descriptions of heaven and hell are especially telling. Hell is a place where, for example, people burn in the flesh:

> AS all *Sins* are *Material,* so are *Punishments*: for, Material Creatures, cannot have Immaterial Sins; nor can Material Creatures be capable of Immaterial Punishments; which may be proved out of the Sacred Scripture: for, all the Punishments that are declared to be in Hell, are Material Tortures: nay, Hell it self is described to be Material; and not only Hell, but Heaven, is described to be Material. But, whether Angels, and Devils, are Material, that is not declared: for, though they are named Spirits, yet we know not whether those Spirits be Immaterial. But, considering that Hell and Heaven is described to be Material, it is probable, Spirits are also Material…[75]
>
> I am onely against those opinions, which make the natural soul of man an immaterial natural spirit, and confound supernatural Creatures with natural, believing those spirits to be as well natural Creatures and

parts of Nature, as material and corporeal beings are; when as there is great difference betwixt them, and nothing in Nature to be found, but what is corporeal. Upon this account I take all their relations of Daemons, of the Genii, and of the Souls after the departure from humane Bodies, their Vehicles, Shapes, Habitations, Converses, Conferences, Entertainments, Exercises, Pleasures, Pastimes, Governments, Orders, Laws, Magistrates, Officers, Executioners, Punishments, and the like, rather for Poetical Fiction…[76]

This is strong language – Cavendish is describing much of the traditional language of the afterlife as poetical fiction. We saw in chapter one that she holds that fictional ideas are constructed out of ideas that are copies of veridical sensory perceptions. In the same way that she allows that immaterial finite spirits might exist, but that our ideas of minds are of thinking bodies, she allows that there might be such destinations as immaterial heaven and hell, but our imagistic ideas are of something else.[77]

In yet another passage, Cavendish is a bit more playful – she addresses the issue of the nature of heaven and hell by partaking in a back and forth between the "major" and "minor" parts of her mind. The major part concludes that "the Heaven and Hell that are to be produced for the Blessed and Cursed, shall be Material."[78] She writes,

> The Major Parts were of opinion, They shall be Material, by reason all those Creatures that did rise, were Material; and being Material, could not be sensible either of Immaterial Blessings, or Punishments: neither could an Immaterial World, be a fit or proper Residence for Material Bodies, were those Bodies of the purest Substance. But, whether this Material Heaven and Hell, shall be like other Material Worlds, the Parts of my Mind could not agree, and so not give their Judgment. But, in this they all agreed, That the Material Heaven and Hell, shall not have any other Animal Creatures, than those that were of Human kind, and those not produced, but raised from Death.[79]

Here Cavendish is supposing that our descriptions of heaven and hell are descriptive and that if they are, heaven and hell are literal places. Noteworthy in the passage is her mention of language that describes the soul as rising from the body after death, and its transportation to heaven (or hell). In the light of some of the metaphysical axioms of chapter two, things rise or move only if they are bodies, and the punishments and rewards that are depicted in the afterlife apply exclusively to bodies as well. Cavendish does allow that we might be immaterial souls in an afterlife, and that for all we know we have immaterial souls right now, but the souls of which we speak in our embodied attempts to do philosophy are bodies that think. We have no conception of

what an afterlife would be for an immaterial soul, and the ideas of which our cognitive faculties *are* capable are of bodies instead:

> the Terrors of Death are Natural to all mankind, not so much to Feel, as to Think of, not only for the Parting of Soul and Body, and the dark Oblivion in Death, but for the Uncertain condition after Death; for though Death is not Sensible of Life, yet Life is Sensible of Death; so that it is the Thoughts of Death that are Fearfull, and not Death it self that is so Terrible, as being neither Painfull to Feel, nor Dreadfull to Behold, because Invisible and Insensible, having neither Shape, Sound, Sent, Tast, nor Touch…[80]

Some say, all that we know of *Heaven* above,

Is that we joye, and that we love.

Who can tell that? for all we know,

Those *Passions* we call *Joy,* and *Love* below,

May, by *Excesse,* such other *Passions* grow,

None in the World is capable to know.

Just like our *Bodies,* though that they shall rise,

And as S^{t}. *Paul* faies, see *God* with our *Eyes;*

Yet may we in the *Change* such difference find,

Both in our *Bodies,* and also in our *Mind,*

As if that we were never of *Mankind,*

And that these *Eyes* we see with now, were blind.

Say we can measure all the *Planets* high,

And number all the *Stars* be in the *Skie;*

And *Circle* could we all the *World* about,

And all th' *Effects* of *Nature* could finde out:

Yet cannot all tho *Wise,* and *Learned* tell,

Whats done in *Heaven,* or how we there shall dwell.[81]

We have no conception of what would be left of us in an immaterial afterlife, Cavendish is suggesting, or what sort of experience we would have. Without sense organs, we would not sense anything, and strictly speaking we would no longer be members of "mankind." Cavendish is thus happy to concede that some part of us

might continue to exist in another realm, but that we have no sense of what that part might be. The trajectory of our material soul, however, is more settled:

> Motion's cessation is the end
>
> Of Animals, both Beasts and Men;
>
> The longest Lives to that do tend,
>
> And to Death's Palace, his dark Den.
>
> Or that Beasts breath doth downwards go,
>
> And that Men's Souls do upward rise;
>
> No Post from that World comes you know:
>
> It puzzled *Solomon* the Wise.[82]

> But as for the Natural Soul, she being material, has no need of any Vehicles, neither is natural death any thing else but an alteration of the rational and sensitive motions, which from the dissolution of one figure go to the formation or production of another. Thus the natural soul is not like a Traveller, going out of one body into another, neither is air her lodging; for certainly, if the natural humane soul should travel through the airy regions, she would at last grow weary, it being so great a journey, except she did meet with the soul of a Horse, and so ease her self with riding on Horseback. Neither can I believe Souls or Daemons in the Air have any Common-wealth, Magistrates, Officers and Executioners in their airy Kingdom…[83]

Cavendish is suggesting that immaterial souls (if we have them) do not move on to heaven because immaterial souls are not capable of motion and because heaven would not be a place that an immaterial could inhabit. She is also suggesting that material souls do not advance to heaven upon the decomposition of the body; they would not survive the trip.

Theology and heresy

Cavendish has to navigate some very difficult terrain in her attempt to be pious and devout. Like Galileo in his famous letter to the Grand Duchess Christina,[84] Cavendish highlights the importance of theology as a field of study, but also emphasizes that its subject matter is so profound as to be hardly within our reach. She writes,

> Theologie is a glorious study, but the way is difficult and dangerous, for though there are many pathes, yet there is but one that leads to

heaven, and those that step awrie fall into the Gulph of damnation, and the deep study in this many times blindes the eyes, both of faith and reason, and instead of uniting mankind with love, to live in peace, it makes discords with controversies, raises up faction to uphold each-side, whose endlesse quarrels are followed with such hatred, and fought with such malice and envie, and the zeal spits so much blood, as if not onely several parties would be rased out, but the bulk of mankind…[85]

As we have seen, Cavendish will in some cases attempt to address a theological issue or puzzle, but in the end she will always defer to Church authority. She writes for example that

> it is not probable, that she [the immaterial soul] is produced by the way of corporeal productions, but created and infused from God, according to her nature, which is supernatural and divine: But being the Image of God, how she can be defiled with the impurity of sin, and suffer eternal damnation for her wickedness, without any prejudice to her Creator, I leave to the Church to inform us thereof.[86]

She has a balancing act to perform indeed. On the one hand, she aims to showcase the height of theology as a subject matter, and give due reverence to the Church and to the authority of its interpreters. At the same time, she wants to emphasize the limits of human cognition with respect to all matters and with respect to matters of religion in particular:

> some men will be as presumptuous as the Devil, to enquire into Gods secret actions, although they be sure that they cannot be known by any Creature. Wherefore let us banish such vain thoughts, and onely admire, adore, love, and praise God, and implore his Mercy…[87]
>
> The truth is, what is Immaterial, belongs not to a Natural knowledg or understanding, but is Supernatural, and goes beyond a natural reach or capacity. Concerning *the Key of Divine Providence,* I believe God did never give or lend it to any man; for surely, God, who is infinitely Wise, would never intrust so frail and foolish a Creature as Man, with it, as to let him know his secret Counsels, Acts, and Decrees. But setting aside Pride and Presumption, Sense and Reason may easily perceive, that Man, though counted the best of Creatures, is not made with such infinite Excellence, as to pierce into the least secrets of God; Wherefore I am in a maze when I hear of such men, which pretend to know so much, as if they had plundered the Celestial Cabinet of the Omnipotent God…[88]

Cavendish proposes that the Church should be the final arbiter on questions of theology, but as we have seen she is clear in a number of passages that preachers, politicians, and other individuals make assertions about God that are motivated by drives that leave much to be desired. She trusts the authority of the Church in part from a pious respect, but she provides no reason to be confident about the faculties of the human beings who compose its ranks, and indeed she maintains that God cannot be known by *any* creature. She supports the authority of the Church for reasons of piety, but also for reasons that are more pragmatic:

> in things divine, I refer my self wholly to the Church, and submit onely to their instructions, without any further search of natural reason; and if I should chance to express more then I ought to do, and commit some errror, it being out of ignorance rather then set purpose, I shall be ready upon better information, to mend it, and willingly subject my self under the censure and correction of the holy Church, as counting it no disgrace to be ignorant in the mysteries of Faith, since Faith is of things unknown, but rather a duty required from every Layman to believe simply the Word of God, as it is explained and declared by the Orthodox Church, without making Interpretations out of his own brain, and according to his own fancy, which breeds but Schismes, Heresies, Sects, and Confusions.[89]

Cavendish recommends that subjects adhere to official Church doctrine in part because we have no hope of settling the interpretive issues ourselves and because uniformity is beneficial for order and cohesion. As she had put it, a single uniform doctrine will decrease the odds that there are "endlesse quarrels… followed with such hatred, and fought with such malice and envie, …as if not onely several parties would be rased out, but the bulk of mankind." The resultant social order will then make possible those pursuits that are actually available to us.[90]

Cavendish insists in numerous passages that the Church is the final arbiter on all matters theological. She hopes, however, that the authorities will leave space for her to pursue her own philosophical and scientific inquiries:

> I do not meddle with any Divine Mysteries, but subject my self, concerning my Faith or Belief, and the regulating of my actions for the obtaining of Eternal Life, wholly under the government and doctrine of the Church, so, I hope, they will also grant me leave to have my liberty concerning the contemplation of Nature and natural things, that I may discourse of them, with such freedom, as meer natural Philosophers use, or at least ought, to do; and thus I shall be both a good Christian, and a good Natural Philosopher…[91]

We would be wise to embrace official Church doctrine without question, Cavendish thinks, but there are many issues that we are in a position to

investigate ourselves, and on which Church doctrine has no bearing.[92] She will never disagree with Church doctrine, but that does not mean that she will never put up a fight. In at least some instances, for example, she suggests that Church authorities might want to consider that it is possible that their understanding of scripture is mistaken. She writes:

> though I speak as a natural Philosopher, and am unwilling to cite the Scripture, which onely treats of things belonging to Faith and, and not to Reason; yet I think there is not any passage which plainly denies Matter to be Infinite, and Eternal, unless it be drawn by force to that sense… also the Scripture says, *That Gods ways are unsearchable, and past finding out.* Wherefore, it is easier to treat of Nature, then the God of Nature; neither should God be treated of by vain Philosophers, but by holy Divines, which are to deliver and interpret the Word of God without sophistry, and to inform us as much of Gods Works, as he hath been pleased to declare and make known.[93]

Cavendish will always accept the verdict of the Church as final, but as we have seen she is skeptical of the ability of any finite human mind to interpret scripture and once and for all extract its truth. There is a true religion, she supposes, but there is no way to be certain who is in possession of it, or how we would ever be able to tell:

> But to adore God, after a particular manner, according to his special Will and Command, requires his Particular Grace, and Divine Instructions, in a supernatural manner or way, which none but the chosen Creatures of God do know, at least believe, nor none but the sacred Church ought to explain and interpret: And the proof, that all men are not of the number of those elect and chosen people of God, is, that there can be but one True Religion, and that yet there are so many several and different opinions in that Religion; wherefore the Truth can onely be found in some, which are those that serve God truly, according to his special Will and Command, both in believing and acting that which he has been pleased to reveal and command in his holy Word: And I pray God, of his infinite mercy, to give me Grace, that I may be one of them, which I doubt not but I shall, as long as I follow the Instruction of our blessed Church, in which I have been educated.[94]

Here Cavendish says that some individuals are able to grasp truths about God and His deliverances,[95] but she is silent about who these individuals are, and she does not specify that they are the authorities of the Church. She does say that we should accept the verdict of the Church on all such matters, but not for the reason that such a verdict is always true. She is explicit elsewhere that

any individual might be mistaken with respect to their views in theology: we have very limited cognitive faculties, and our motives and drives are such that our views about God and scripture are likely to be more about us. Cavendish insists on the validity of accepting Church doctrine, but she indicates in a number of passages that one of the main reasons to accept it is for purposes of social order.

Immaterials and science

Cavendish cautions against making assertions about things of which finite minds can have no idea, with a focus on God and immaterial human souls. Another part of her agenda is to take issue with scientists who use the language of immaterial entities in their explanations of the behavior of bodies. Her principal target is the scientist, Jan-Baptista Van Helmont. Her central accusation against Van Helmont is that he appeals to immaterials in his attempts to treat physical illness and mental illness.[96] Energy would be better expended, she thinks, in the search for causes that are detectable and that can make a difference:

> no Immaterial quality will do any hurt, if it be no substance; wherefore Apoplexy, Leprosie, Dropsie, and Madness, are Corporeal beings, as well as the rest of Diseases, and not abstracted Qualities; and I am sure, Persons that are affected with those diseases will tell the same.[97]

As we saw in chapter one, Cavendish supposes that if medical scientists were to make meticulous and time-consuming observations of focused parts of the human body, they would be able to treat many diseases, and enhance human health and life. In a passage that is especially relevant to her critique of Van Helmont, she writes,

> Physitians should study the motions of the body, as naturall Philosophers, study the motions of the heavens, for several diseases have several motions, and if they were well watched, and weighed, and observed, they might easily be found out severally; and as they take compass of the heaven, and stand upon the earth, so they may take the degrees of the disease, although they diffect not the body. Thus natural Physitians may know, when the sun of health will be eclipsed by the shaddow of melancholly, which gets betwixt the body and health; and natural physitians may come to know the thoughts, as they the stars, by studying the humors of men, & may know what influences they may have upon the body; and may know the severall changes of their humor, as they the several changes of the moon, that the several changes of the humor, causeth the bloud to ebb and to flow,

> as the Tides of the Sea… Thus if we could finde the several motions in several diseases in a body, as surely might be done by observations, and study, and could finde out the several motions by the several operations in physick, we might surely so apply them together, as to make animals, though not live eternally, yet very long…[98]

Cavendish is suggesting that the attention of Van Helmont is inappropriately divided. He clearly acknowledges that bodies are an important object of study, but he agrees with More, Cudworth, and others that bodies are able to do what they do only because they are infused with immaterial spirits that guide them along.

Van Helmont posits not a soul of nature, or a plastic nature, but a spiritual *archeus*:

> Archeus, the Workman and Governour of generation, doth cloath himself presently with a bodily cloathing: For in things soulified he walketh thorow all the Dens and retiring places of his Seed, and begins to transform the matter, according to the perfect act of his own Image.[99]

Cavendish raises a number of objections here. One is that if archeus is immaterial and also participates in the motions of the bodies that it infuses, Van Helmont is committed to the view that there is incorporeal motion, or "Incorporeal Blas."[100] But there is no incorporeal motion, and in addition, an incorporeal entity would not be able to conjoin with a body or make a difference in its behavior. She writes,

> those cures which are performed exteriously, as to heal inward affects by an outwad bare co-touching, are all made by natural motions in natural substances, and not by Non-being, substanceless Ideas, or spiritual Rays; for those that will cure diseases by Non-beings, will effect little or nothing; for a disease is corporeal or material, and so must the remedies be, there being no cure made but by a conflict of the remedy with the disease; and certainly, if a non-being fight against a being, or a corporeal disease, I doubt it will do no great effect; for the being will be too strong for the non-being: Wherefore my constant opinion is, that all cures whatsover, are perfected by the power of corporeal motions, working upon the affected parts either interiously or exteriously, either by applying external remedies to external wounds, or by curing internal distempers, either by medicines taken internally, or by bare external co-touchings.[101]

Cavendish takes issue for example with Van Helmont's understanding of the causes of conditions like dropsy and gout. He says for example that

> The Dropsie therefore, is a Disease occasionally arisen from a bloody depraved matter, as it were from a fermental Beginning: at whose incitement the Archeus of the Reins formeth an Idea of indignation; through the power whereof, he shuts up the Urine-pipes, and Veins, corrupts and diverts the abounding Latex, and transmits this Latex into the compass of the Abdomen, or nether part of the Belly…[102]

Cavendish worries about exactly how the archeus would be able to shut up or divert bodies, and about how a disease or condition could have non-physical causes at all. She denies for example that

> the Gout doth immediately consist in this spirit of life. All which how it doth agree, I cannot conceive; for that a real being should be enlightned by Nothing, and be a spirit of Nothing, is not imaginable, nor how the Gout should inhabit in the spirit of life…[103]

Cavendish insists that the causes of disease "are neither Light, nor [incorporeal] Blas," nor anything else that is immaterial.[104] She supposes that if we put our nose to the grindstone and focus our attention on the subtle behavior of physical things alone, we will make more progress in developing medicines that can make an impact.

Part of Cavendish's frustration with Van Helmont is that he seems to be allowing his scientific views to be informed by his theology. She writes,

> he makes such a mixture of Divinity, and natural Philosophy, that all his Philosophy is nothing but a meer Hotch-potch, spoiling one with the other.[105]

This mixture of science and theology is bad for science and bad for human health, Cavendish thinks, but it is also bad for reasons of piety. The approach amounts to a kind of heresy, even though it purports to emphasize the supernatural and divine:

> But I observe he appeals often to Divinity to bear him up in Natural Philosophy; but how the Church doth approve his Interpretations of the Scripture, I know not: Wherefore I will not meddle with them, lest I offend the Truth of the Divine Scripture, wherein I desire to submit to the Judgment of the Church, which is much wiser then I, or any single Person can be.[106]
>
> my study is in natural Philosophy, not in Theology; and therefore I'le refer you to Divines, and leave your *Author* to his own fancy, who by his singular Visions tells us more news of our Souls, then our Saviour did after his Death and Resurrection…[107]

Cavendish is no doubt correct that Van Helmont allows his science to be informed by theology: he bases his chemical philosophy on a very literal reading of the Bible, and by his own account he became a physician in response to a divinely inspired vision.[108] Cavendish herself believes that supernatural beings exist, but she insists that they cannot enter into our diagnoses because they cannot enter into relations with the bodies that are the cause of health and disease:

> though I believe that there is a Devil, as the Word of God and the Church inform me, yet I am not of the opinion, that God should suffer him to have such a familiar conjunction, and make such contracts with Man, as to impower him to do mischief and hurt to others, or to foretell things to come, and the like; for I believe that all things Immaterial, as Spirits, Angels, Devils, and the divine Soul of Man, are no parts of Nature, but Supernatural, Nature knowing of no Creature that belongs to her, but what is material; and since incorporeal Creatures are no parts of Nature, they neither have natural actions, nor are they concerned as copartners or co-agents in the actions of Nature and natural Creatures; but as their substances, so their actions are supernatural, and beyond our conceivement.[109]

> I cannot be perswaded that the Devil should be put away so easily; for he being a Spirit, will not be chased by corporeal means, but by spiritual, which is Faith, and Prayer; and the cure of dispossessing the Devil belongs to Divines, and not to Natural Philosophers or Physicians.[110]

In the seventeenth century, mental illness was sometimes attributed to wicked immaterial spirits that would possess and take over a person's body. If madness is instead a matter of having imagistic ideas that do not depict the outside world as it actually is, scientists would be wise to focus their study on the bodies that enter into those ideas, and find ways to get them to behave differently.[111] We cannot eliminate causes if we do not detect them, but we will not detect causes that are immaterial. In addition, the search for immaterial causes might divert our attention from actual causes. Van Helmont did not speak much about devils as responsible for illness, but Cavendish is worried that methodologically speaking he is very close. She holds out hope that her own methods will allow us to discover the mechanisms that underlie physical and psychological illness, and then apply the appropriate treatment and cure.[112]

Cavendish's criticism of Van Helmont would appear to be very unfair. Van Helmont does speak of a spiritual principle that guides the behavior of bodies, but other figures in the seventeenth century used the language of "spirits" to refer to material entities – but ones that were more subtle and rarified than gross macroscopic bodies. Descartes of course did this, as did Cavendish in some instances herself.[113] Van Helmont allows that the archeus moves and comes

into contact with bodies, and so perhaps in the end he would allow that it is a very special kind of matter. If he resists that response, we could reply on his behalf that even if he would *describe* his archeus as immaterial, that does not mean that it is, or that his explanations do not help to carve nature at the joints. Given what Cavendish says herself about "heaven" and "hell," and other things of which she supposes we have imagistic ideas, she should allow that it is possible that Van Helmont and similarly minded scientists are talking about bodies when they speak of "the spirit of life" and its "blas," even if they do not use the most felicitous language. If so, Van Helmont might be contributing to extraordinary advances in science and medicine; and it appears indeed that he did exactly that. Here Cavendish would presumably respond that even if some of Van Helmont's ideas of "immaterials" in fact reduce to ideas of bodies that enter into diseases and their cures, his language is misleading and counterproductive. Van Helmont and others are prepared to concede that the "immaterial" spirits that are infused in bodies are not sensible, for example, but Cavendish thinks that, if so, there is no ground on which to posit them:

> even those that are so much for Incorporeal Spirits, must confess, that they cannot be seen in their own natures, as being Invisible, and therefore have need to take vehicles of some grosser bodies to manifeft themselves to men: and if Spirits cannot appear without bodies, the neerest way is to ascribe such unusual effects or apparitions, as happen sometimes, rather to matter that is already corporeal, and not to go so far as to draw Immaterial Spirits to Natural actions, and to make those Spirits take vehicles fit for their purposes…[114]

Here Cavendish in a way allows that Van Helmont might be contributing to important scientific progress even if he is not employing an optimal language. However, she worries that the search for immaterial causes amounts to a diversion and that, insofar as Van Helmont's approach allows us to stop at causes that are invisible, it keeps us from locating material causes that might be operative further still. We would then be kept from important treatments and cures. A worry for Cavendish, of course, is that she does not limit her investigations to what is sensible either. She posits that *reason* is able to detect things that the senses cannot, and that the speculation of reason is indispensable to scientific and philosophical inquiry both.

Notes

1 *PL*, 69.
2 *GNP*, 1–2.
3 *PL*, 195. Here Cavendish is responding to More.
4 *OEP*, "Further Observations upon Experimental Philosophy," 45. See also Fitzmaurice (2014), 79–80; Sarasohn (2014), 93–94; Clucas (2014), 135–138; and Schiebinger (1991), 8.

5 *PPO*, 119. See also *OEP*, 75; *NP*, 566, 620–621; *ODS*, 192–193.
6 *OEP*, 74.
7 *OEP*, 74.
8 *PL*, 12.
9 *GNP*, 240.
10 *OEP*, 58.
11 *PL*, 225–226. This passage was also cited in chapter two.
12 *PL*, 300–301.
13 See also *PL*, 329–330: "as for the Production of this immaterial and divine Soul in Man, whether it come by an immediate Creation from God, or be derived by a successive propagation from Parents upon their Children, I cannot determine any thing, being supernatural, and not belonging to my study; nevertheless, the Propagation from Parents seems improbable to my reason; for I am not capable to imagine, how an immaterial soul, being individable, should beget another…. I cannot conceive how the souls of the Parents, being individable in themselves, and not removeable out of their bodies until the time of death, should commix so, as to produce a third immaterial soul, like to their own." See also Hutton (1997a), 426–427; and Detlefsen (2007), 162.
14 *OEP*, 74.
15 *PL*, 78.
16 *PL*, 177.
17 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 12. See also the similar passage in Hobbes, *Leviathan*, I.v.5, 24.
18 In the passages in which Cavendish speaks of immaterials to say that we cannot speak of them, she is presumably just trying to communicate with those who disagree with her and to express that many of the theological claims that they attempt to make cannot in fact be articulated.
19 See also Mendelson (2014), 32–33.
20 *PL*, 141.
21 *PL*, 322–323. See also *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 10.
22 See for example the Third Meditation, CSM2: 31–32.
23 "To Mersenne, 27 May 1630," CSMK 25.
24 *GNP*, 240. See also *SL*, Letter LI, 103–105.
25 *PL*, 431. This axiom and its application will be discussed more fully in chapter four.
26 There is also a question of what the content of the (imagistic) idea of causality would be for Cavendish. There is some discussion of this issue in chapter four.
27 *OEP*, 76.
28 *OEP*, 75.
29 *OEP*, "Further Observations upon Experimental Philosophy," 36.
30 *OEP*, unnumbered. See also *PL*, 139–140.
31 *PL*, 187.
32 *GNP*, 243–244.
33 *PL*, 587. Below there is a discussion of the sense in which Cavendish thinks that natural philosophy proves the existence of God.
34 The arguments for this view will be considered in chapter four.
35 *OEP*, "To the Reader," unnumbered page.
36 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 31.
37 "Natures Three Daughters," in *Playes*, 496–497.
38 But noteworthy is that this passage is from one of her plays. Below there are additional passages that will serve as corroboration, however.

39 See for example St. Thomas Aquinas, *Summa Theologiae*, I.ii.3, 270; and Leibniz, *Discourse on Metaphysics*, sections 1–3 and 13–14.
40 *Ethics*, Ip15, 224–225.
41 For example, Cavendish holds that something cannot come from nothing and that, since nothingness has no properties, the material universe is a plenum. There is a discussion of the latter view in chapter four.
42 *Philosophicall Fancies*, 12.
43 *WO*, 117. See also *ODS*, 303: "some may Question, how Infinite and Eternity came but that is such an Infinite question, as not to be Answered: for whatsoever is Infinite and Eternal, is God, which is something that cannot be Described or Conceived…"
44 *NP*, 397–398.
45 *OEP*, "Further Observations Upon Experimental Philosophy," 44.
46 *PL*, 199.
47 If Cavendish does hold that God and nature are one, she would identify God's omniscience with a kind of omniscience in nature. In chapter five there will be an exploration of her view that although individual beings in the universe are often confused and have incomplete representations, taken collectively all of the ideas in nature constitute a representation that is complete.
48 *GNP*, 76–77.
49 *PL*, 9–10.
50 See also Mendelson (2014), 29–31.
51 But Cavendish would appear to have difficulty allowing that God plays any role among creatures at all. She holds that God and the universe are co-eternal, but if God and the universe are co-eternal, and if God produces the universe, it is not clear if or when God's creative activity starts and stops. Cavendish would not want to say that God is constantly creating the universe, for (as we have seen) she supposes that God is not a busybody. On the other hand, God is clearly producing the universe at some point of its existence. This is presumably a paradigmatic case of an issue on which Cavendish would want to suspend judgment.
52 *OEP*, "Further Observations Upon Experimental Philosophy," 35–36. See also *NP*, 619: "The Preachers for Heaven, said she, ought not to preach Factions, nor to shew their Learning, nor to express their Wit; but to teach their Flock to pray rightly: for hard it is to know, whether we pray, or prate; since none can tell the purity of their own heart, or number the Follies thereof, or cleanse out the muddy Passions that by Nature are bred therein, or root out the Vices the World has sown thereon: for, if we do not leave out the World, the Flesh, and the Devil, in our humble Petitions, and earnest Desires, we offer to Heaven, it may be said, we rather talk than pray: for, it is not bended knees, or a sad countenance, can make our Prayers authentical or effectual; nor words, nor groans, nor sighs, nor tears, that can pierce Heaven; but a zealous Flame, raised from a holy Fire, kindled by a spark of Grace in a devout heart, which fills the soul with admiration and astonishment at *Jove's* incomprehensible Deity: for, nothing can enter Heaven, but Purity and Truth…"
53 *PPO*, 173. See also *PL*, 10.
54 *PL*, 318–319. See also *PL*, 221–222: "But in things Divine, Disputes do rather weaken Faith, then prove Truth, and breed several strange opinions; for Man being naturally ambitious, and endeavouring to excel each other, will not content himself with what God has been pleased to reveal in his holy Word; but invents and adds something of his own; and hence arise so many monstrous expressions and opinions, that a simple man is puzzled, not knowing which to adhere to; which is the cause of so many schismes, sects, and divisions in Religion: Hence it

comes also, that some pretend to know the very nature and essence of God, his divine Counsels, all his Actions, Designs, Rules, Decrees, Power, Attributes, nay, his Motions, Affections, and Passions, as if the Omnipotent Infinite God were of a humane shape; so that there are already more divisions then Religions, which disturb the peace and quiet both of mind and body; when as the ground of our belief consists but in some few and short Articles, which clearly explained, and the moral part of Divinity well pressed upon the People, would do more good, then unnecessary and tedious disputes, which rather confound Religion, then advance it: but if man had a mind to shew Learning, and exercise his Wit, certainly there are other subjects, wherein he can do it with more profit, and less danger, then by proving Christian Religion by Natural Philosophy, which is the way to destroy them both. I could wish, *Madam,* that every one would but observe the Command of Christ, and give to God what is Gods, and to *Caesar* what is *Caesars*…"

55 *PL*, 614. See also *WO*, 13: "it is, as if a man should have a high roman nose, and one should take the picture of him, and draw him with a flat nose, as liking that fashioned nose better; it may go under the name of that man, but it will be nothing like him, or why should one nation be drawn in the habit of another, since they are different: and though the distinctions of several nations in pictures, can onely be known by their habits; and many times they do not onely change the graver and formal fashions, from one nation to another, but dresse them in their fantastical dresse: but if they do it to please the Luxurious palats of men, they rather become insinuators, then translatours…" See also *ODS*, 307–308: "Since by, and in Nature, all Men, especially Scholars, are so Opinative, and Conceited of their own Wit and Judgement, …if any One Man should say, he is Inspired from Heaven, how can we Believe him, when as we cannot Tell, whether he be so or not? also it is as Difficult, to find out an other man to Judge of his Inspiration, as to know whether he be Inspired. Wherefore, to Conclude, all Mankind will never Agree of One Teacher or Judge, and so not of One Opinion or Belief."

56 "Natures Three Daughters," in *Playes*, 503. See also p. 502.

57 *PL*, 462. Here Cavendish is speaking of the scientist Jan Baptista Van Helmont.

58 *PL*, 299–300.

59 And to feel self-satisfied. An additional part of her agenda in rejecting the language of immaterials is to take on individuals who regard the occurrence of personal tragedy as a punishment, inflicted by immaterials, on beings who deserve their lot. She writes, "I wonder much, why God should command Earth-quakes in some parts of the World more frequent then in others. As for example; we here in these parts have very seldom Earthquakes, and those we have, which is hardly one in many ages, are not so furious, as to do much harm; and so in many other places of the World, are as few and as gentle Earth-quakes as here; when as in others, Earth-quakes are very frequent and dreadful: From whence it must needs follow, if Earth-quakes be onely a Judgment from God for the sins of Impenitent Men, and not a natural effect, that then those places, where the Earth is not so apt to tremble, are the habitations of the blessed, and that they, which inhabit those parts that are apt to tremble, are the accursed; when as yet, in those places where Earthquakes are not usual and frequent, or none at all, People are as wicked and impious, if not more, then in those where Earthquakes are common. But the questions is, Whether those parts which suffer frequent and terrible Earthquakes, would not be so shaken or have such trembling fits, were they uninhabited by Man, or any other animal Creature? Certainly, in my opinion, they would. But as for the Natural Cause of Earthquakes, you must pardon me, *Madam,* that I cannot knowingly discourse thereof, by reason I am not so well skilled in Geography, as to know the several Soils, Climats, Parts,

Regions, or Countries, nor what disposed matter may be within those parts that are subject to frequent Earthquakes" (*PL*, 263–265).

60 *PL*, 219.

61 See also Sarasohn (2010), 88.

62 "Difference Betwixt Man and Beast," *WO*, 140–141.

63 *WO*, 46.

64 *PL*, 216. See also *PL*, 429.

65 *PL*, 162.

66 *PL*, 210. See also *PL*, 78.

67 *GNP*, 239.

68 *PL*, 164.

69 Here I am piggybacking on the discussion in chapter one.

70 *PL*, 162–163. See also *PL*, 49.

71 Especially if reality is a plenum. There will be a further discussion of this issue in chapter five, on "Ubiquitous Knowledge."

72 *PL*, 526. See also PL, 327: "Oh! the audacious curiosity of Man! Is it not blasphemy to make the Infinite God of a frail and humane shape, and to compare the most Holy to a sinful Creature? Nay, is it not an absurdity, to confine and inclose that Incomprehensible Being in a finite figure? I dare not insist longer upon this discourse, lest I defile my thoughts with the entertaining of such a subject that derogates from the glory of the Omnipotent Creator…"

73 *PL*, 187.

74 See also Sarasohn (2014), 104–105.

75 *GNP*, 247–248. See also *PL*, 218; *ODS*, 190–193.

76 *PL*, 217.

77 There are also a few passages in which Cavendish speaks reductively of "heaven" and "hell" as referring successfully to earthly states of pleasure and pain that are familiar (and existent). Ideas of these might be part of the basis for the ideas that we construct in which heaven and hell are literal places. See for example *NP*, 610–611, and *WO*, 82–83. In another passage she supposes that heaven and hell might in fact be literal places that we inhabit after we die: "You will say, the Scripture doth teach us that, for it is not Six thousand years, when God created this World. I answer, the holy Scripture informs us onely of the Creation of this Visible World, but not of Nature and natural Matter; for I firmly believe according to the Word of God, that this World has been Created, as is described by *Moses,* but what is that to natural Matter? There may have been worlds before, as many are of the opinion that there have been men before *Adam,* and many amongst Divines do believe, that after the destruction of this World God will Create a new World again, as a new Heaven, and a new Earth; and if this be probable, or at least may be believed without any prejudice to the holy Scripture, why may it not be probably believed that there have been other worlds before this visible World? for nothing is impossible with God; and all this doth derogate nothing from the Honour and Glory of God, but rather increases his Divine Power" (*PL*, 15).

78 *GNP*, 261–262.

79 Ibid.

80 *ODS*, "A Young Noble Man's Funeral Oration," 149.

81 "The *Motion* of *Thoughts*," *Poems and Fancies*, 41–42.

82 *NP*, 151. Cavendish does suggest in one of her poems, however, that for all we know some of the bodies that compose a human mind remain together upon an individual's death. The poem entertains that position, and also the opposite. See "A Dialogue between two Naturall Opinions," *Poems and Fancies*, 53-54. See also Wright (2014), 49.

83 *PL*, 218.
84 See Galileo Galilei, "Letter to Madame Christina of Lorraine, Grand Duchess of Tuscany," 181–194.
85 *PPO*, "An Epistle to My Reader, for my book of Philosophy," unnumbered. See also *PL*, 222: "when the Omnipotent God acts, he acts supernaturally, as beyond Nature; of which devine actions none but the holy Church, as one united body, mind and soul, should discourse, and declare the truth of them, according to the Revelation made by God in his holy Word, to her Flock the Laity, not suffering any one single person, of what profession or degree soever, indifferently to comment, interpret, explain, and declare the meaning or sense of the Scripture after his own fancy…" See also *PL*, 210; and *SL*, Letter XVII, 29–30.
86 *PL*, 331.
87 *PL*, 349–350. See also *PL*, 503: "I confess my ignorance in this great mystery, and honour, and praise the Omnipotent, Great, and Incomprehensible God, with all fear and humility as I ought; beseeching his infinite mercy to keep me from such presumption, whereby I might prophane his holy Name, and to make me obedient to the Church…"
88 *PL*, 230–231. See also *NP*, 619.
89 *PL*, 324.
90 There will be some further discussion of this issue in chapter eight, "A Note to the Monarch."
91 *PL*, 323. See also *PL*, 224: "as for the immediate actions of the Divine Soul, I leave you to the Church, which are the Ministers of God, and the faithful dispensers of the sacred mysteries of the Gospel, the true Expounders of the Word of God, Reformers of mens lives, and Tutors of the Ignorant, to whom I submit my self in all that belongs to the salvation of my Soul, and the regulating of the actions of my life, to the honour and glory of God. And I hope they will not take any offence at the maintaining and publishing my opinions concerning Nature and Natural effects, for they are as harmless, and as little prejudicial to them, as my designs; for my onely and chief design is, and ever hath been to understand Nature rightly, obey the Church exactly, Believe undoubtedly, Pray zealously, Live vertuously, and Wish earnestly, that both Church and Schools may increase and flourish in the sacred knowledge of the true Word of God, and that each one may live peaceable and happily in this world, die quietly, and rise blessedly and gloriously to everlasting Life and happiness…" See also *PL*, 210–211.
92 Cavendish thinks that in some cases the work of the philosopher and scientist can direct us toward truths of theology, so long as they are also with the domain of science and philosophy itself. See for example *OEP*, "Further Observations," 39. She writes, "NAtural Philosophy is the chief of all sorts of knowledges; for she is a Guide, not onely to other Sciences, and all sorts of Arts, but even to divine knowledg it self; for she teaches that there is a Being above Nature, which is God, the Author and Master of Nature, whom all Creatures know and adore."
93 *PL*, 462.
94 *OEP*, "Further Observations Upon Experimental Philosophy," 39–40.
95 Given her theory of ideas, these individuals would have mental states that happen to be directed at God and His nature, but it is not clear what their specific content would be, and they would not be ideas. See also Smith (2014), 15–19, for a discussion of the extent to which Cavendish can be said to subscribe to Christian theological doctrine specifically.
96 See also Sarasohn (2010), 141–148; Broad (2007), 501–503.
97 *PL*, 350–351.
98 *PPO*, 103–104. This passage was also cited in chapter one.

99 Jan Baptista van Helmont, *Oriatrike: Or, Physick Refined*, 35.
100 *PL*, 240.
101 *PL*, 403–404.
102 "The Dropsie is Unknown," *Oriatrike*, 520.
103 *PL*, 401.
104 *PL*, 366.
105 *PL*, 248.
106 *PL*, 254.
107 *PL*, 342. She also writes that Van Helmont's positions "not onely proceed from strange Visions, Apparitions, and Dreams, but are built upon so strange grounds and principles as *Ideas, Archeus, Gas, Blas, Ferment,* and the like, the names of which sound so harsh and terrifying, as they might put any body easily into a fright, like so many Hobgoblins or Immaterial spirits; but the best is, they can do no great harm, except it be to trouble the brains of them, that love to maintain those opinions…" (*PL*, 239). See also *PL*, 187.
108 See Broad (2011a), 59.
109 *PL*, 227. See also *PL*, 210–211.
110 *PL*, 390.
111 See for example "The manner of motion, or the disorder of madness," *PPO*, 136. Cavendish appeals to similar thinking to argue that diseases are hereditary and that there is some material stuff that passes from parents to their offspring that makes the offspring more likely than another person to develop the disease in question (*PL*, 400). Her argument appears to be this: diseases are not things that afflict all people who reside in a common environment, so the occurrence of disease must be due to the dispositions and capacities in the matter out of which the disease-stricken are composed. The differences between people tend to be due to differences in the matter that is passed on from parents, and so diseases are hereditary. Her view is very forward-looking here. She makes sure to align herself with the Church by pointing out that in scripture we are told that some of what we are is passed down through Adam (*PL*, 340).
112 See for example *PPO*, 170, 139.
113 See Descartes, *Treatise on Man*, CSM1: 99–108. Cavendish uses the language of "spirits" to refer to bodies throughout *PPO*. She rebukes herself for this later (at *PL*, 232).
114 *PL*, 228.

4

THE ETERNAL PLENUM

Cavendish derives her metaphysics from axioms that she takes to be obvious and intuitive. She derives a doctrine of thinking matter, as we saw in chapter two, and she generates a number of other metaphysical positions as well: that the universe is eternal; that there is a necessary connection between causes and their effects and that the behavior of bodies is orderly without exception; that the material universe is a plenum; and that individual finite beings are collections of bodies that work in unison to maintain a quantity of motion for a temporary duration. Individuals decompose, of course, but there is a perspective from which death is just a matter of constituent bodies moving on to something new.

No empty space

Cavendish offers both theological and non-theological arguments for the view that the universe is a plenum. As before, she cannot put any real weight on the former; she presents these in an attempt to demonstrate that traditional theological claims and her own larger metaphysics are fully in line. For example, she says that

> God being not a Creator of Nothing, nor an annihilator of Nothing, but of Something, he cannot be a Creator of Vacuum; for Vacuum is a pure Nothing.[1]

The argument here would appear to be straightforward: God would not create the sort of non-being that something would have to be in order to be void, and so He didn't. The reasoning parallels the reasoning that we saw in one of Cavendish's arguments for the view that matter is sufficiently sophisticated to think. If we are going to assert that God creates, we should assert that He does not create entities that are at the bottom of the scale of being; nor would He create nothingness. Cavendish offers theological arguments for some of her positions, but she will also make sure to complement these with arguments that are grounded in principles of reason. She will be fallibilistic

with respect to these as well, leaving open that the conclusions that our cognitive faculties derive from them might for all we know be false.[2] She forges ahead nonetheless, assembling principles of reason to see where they might lead.

For example, she writes,

> Truly, *Madam,* an incorporeal dimension or extension, seems, in my opinion, a meer contradiction; for I cannot conceive how nothing can have a dimension or extension, having nothing to be extended or measured.[3]

Cavendish takes it to be obvious that nothingness can have no properties. "Empty space" has the property of dimension, but the only things that are extended are bodies, and hence the universe is a plenum.[4] There is no empty space, Cavendish thinks, and so bodies do not *take up* space, and they are not *in* space. She supposes that a distinction between a body and its space cannot be coherently drawn:

> all bodies carry their places along with them, for body and place go together and are inseparable, and when the light of the Sun is gone, darkness succeeds, and when darkness is gone, light succeeds, so that it is with light and darkness as with all Creatures else; For you cannot believe, that if the whole World were removed, there would be a place of the world left, for there cannot be an empty nothing, no more then there can be an empty something; but if the world were annihilated, the place would be annihilated too, place and body being one and the same thing; and therefore in my opinion, there be no more places then there are bodies, nor no more bodies then there are places.[5]

Cavendish appreciates that we often *speak* as though there is empty space. We say that there is nothing between two objects for example, or that an object is isolated and that its outer boundary does not touch anything. She thinks that in such cases we are just failing to notice all that is there. We say that bodies exist in the spaces that they occupy, and that a body can move from one space to another, but there is more that happens than meets the eye:

> my sense and reason cannot believe a *Vacuum,* because there cannot be an empty Nothing; but change of motion makes all the alteration of figures, and consequently all that which is called place, magnitude, space, and the like; for matter, motion, figure, place, magnitude, &c. are but one thing. But some men perceiving the alteration, but not the subtil motions, believe that bodies move into each others place…[6]

> by reason this Matter is not subject to our gross senses, although our senses are subject to it, as being made, subsisting and acting through

> the power of its actions, we are not apt to believe it, no more then a simple Country-wench will believe, that Air is a substance, if she neither hear, see, smell, taste, or touch it, although Air touches and surrounds her.[7]

Cavendish subscribes to the doctrine that the universe is a plenum. As we saw in chapter one, she also holds that our sensory experience is for the most part veridical. Here she is suggesting that a single sensory modality never provides a complete picture of an object and that, in particular, modalities like vision need to be supplemented by modalities like touch. We may not see every aspect of an entity, but other modalities might inform us of all that is there. If Cavendish is going to retain the view that any given sense perception tends to be veridical, she will also need to say that sense perceptions tend to be radically incomplete. That is, she will need to say that the bodies that we notice are actually present but that there is much that is in-between those bodies that is present as well.[8]

In arguing that there is no void, Cavendish is taking on any philosopher who posits the existence of empty space, but one of her specific targets is Epicurus. Cavendish takes on his view that there is such a thing as void, and she takes on his related view that there exist multiple worlds or universes that are separated from each other by void:

> As for his infinite Worlds, I am not different from his opinion, if by Worlds he mean the parts of infinite Nature; but my Reason will not allow, that those infinite Worlds do subsist by themselves, distinguished from each other by *Vacuum;* for it is meer non-sense to say, the Universe consists of body and *Vacuum;* that is, of something, and nothing; for nothing cannot be a constitutive principle of any thing, neither can it be measured, or have corporeal dimensions; for what is no body, can have no bodily affections or properties.[9]

Here Cavendish appeals again to the maxim that nothingness has no properties to generate the result that there is no such thing as void. At the same time, she is arguing that it makes no sense to posit worlds or universes in addition to our own. Even if we *allow* Epicurus the void, it is not clear that anything could constitute the boundary between such worlds: the void that putatively separates worlds from each other would be of the same sort as the empty space that separates bodies within a world, and so any given stretch of void or body would never mark a boundary as much as it would be a constituent of the larger whole.

Cavendish herself holds that there is no void, but she thinks that similar boundary issues come up in the case of a plenum. If there is no empty space, the universe is a dense continuum:

> nature is one continued Body, for there is no such *Vacuum* in Nature, as if her Parts did hang together like a linked Chain; nor can any of

her Parts subsist single and by it self, but all the Parts of Infinite Nature, although they are in one continued Piece, yet are they several and discerned from each other by their several Figures.[10]

JUST like unto a [nesting] of *Boxes* round,

Degrees of *sizes* within each *Boxe* are found.

So in this *World,* may many *Worlds* more be,

Thinner, and lesse, and lesse still by degree;

Although they are not subject to our *Sense,*

A *World* may be no bigger then *two-pence.*

Nature is curious, and such *works* may make,

That our dull *Sense* can never finde….[11]

Cavendish holds that the material universe is a plenum and that nothing inside it has the ontological wherewithal to constitute a border or boundary. If there is something beyond the region that we take to be our world, it is touching our world; or if it is not, it is contiguous with bodies that are. The material universe is accordingly a single individual:

And thus Nature may be called both *Individual,* as not having single parts subsisting without her, but all united in one body; and *Divideable,* by reason she is partable in her own several corporeal figurative motions, and not otherwise; for there is no *Vacuum* in Nature, neither can her parts start or remove from the Infinite body of Nature, so as to separate themselves from it, for there's no place to flee to, but body and place are all one thing, so that the parts of Nature can onely joyn and disjoyn to and from parts, but not to and from the body of Nature. And since Nature is but one body, it is intirely wise and knowing, ordering her self-moving parts with all facility and ease, without any disturbance, living in pleasure and delight, with infinite varieties and curiosities, such as no single Part or Creature of hers can ever attain to.[12]

The material universe is an individual body, although it is also composed of individual bodies, in something like the way that a human body contains organs and other nested components.[13] Cavendish is also gesturing here at an additional view – one that falls out of her doctrine of thinking matter. As we saw in chapter two, she holds that in order for bodies to exhibit the widespread regularity and organization that they do, they must communicate with each other and have perceptions of the details of the bodies that surround them. If

so, the totality of bodies that includes all such perceptions "is intirely wise and knowing," even if there is incomplete knowledge in many of its regions and parts.[14]

Some potential problems arise for Cavendish's view that the material universe is a plenum. One is a problem that is internal to her system. We saw in chapter one that she supposes that sensory perceptions tend to be veridical. Indeed, she says that the naked eye is more trustworthy than a microscope and that a sensory image that is formed through the use of a microscope is often a butchered version of the original, if not a monstrosity. If she is right that the universe is a plenum, however, the view of the world that is presented through a microscope is a more faithful representation of local bodies than she is willing to admit. The borders by which we delineate bodies are relatively fuzzy, according to her view, and the "empty" space of bodies that lies in-between them is captured much more accurately through a microscope than through the naked eye. Cavendish could respond here that sensory perceptions formed through vision and other sensory modalities are in fact quite accurate, but are incomplete. That is, what a sensory modality notices is actually there, but a given sensory modality does not notice everything that is there, and indeed it only notices so much. She might add that sensory perceptions are incomplete even when all of those modalities are employed in conjunction.[15] No evidence has been provided that sensory perception is not veridical, she would insist, but only evidence that it is very limited.

Another objection to Cavendish's doctrine that the material universe is a plenum is that the reasoning that she levies in support of the doctrine is controversial at best. Cavendish advances the premise that nothingness has no properties and concludes that since "empty space" has the property of extension and dimension, it is a contiguous stretch of matter. The objection to Cavendish is that even if "empty space" is something, it might be something other than matter. Indeed, a defender of the view that there exists empty space might say that empty space is something – it is a three-dimensional grid of points that material bodies sometimes occupy, but sometimes do not. These points are not *in* space, the opponent might continue, but they constitute space and make possible the location of things like bodies. Cavendish might respond that the notion of a three-dimensional grid of points is somewhat vague, and that a three-dimensional grid would be an odd sort of entity. She would have to be careful in offering this response, however; she celebrates that reality is magical and mysterious, and her opponent might argue that empty space is just par for the course. The opponent might also suggest that a danger for Cavendish is that the identification of space and matter can go both ways – space can be reduced to material bodies, but material bodies might alternately be reduced to dimension.[16] Cavendish wants to say that the plenum is more than just a plenum of dimension; it is a plenum of bodies.

The interdependence of bodies in the plenum

Cavendish subscribes to the view that the universe is a plenum of bodies, and she derives from the view a number of substantive consequences. One is that since a body is always in contact with the bodies that surround and envelop it, any given configuration depends on the behavior of such bodies for its properties and structural integrity.[17] She writes,

> certainly, all Creatures do subsist by each other, because Nature seems to be an Infinite united Body, without *Vacuum.* [18]

> there is no part that can subsist singly by it self, without dependance upon each other, and so parts do always joyn and touch each other…[19]

> there is not any thing in Nature, that has an absolute subsistence of it self, each Creature is a producer, as well as a produced, in some kind or other; for no part of Nature can subsist single, and without reference and assistance of each other, or else every single part would not onely be a whole of it self, but be as a God without controle; and though one part is not another part, yet one part belongs to another part, and all parts to one whole, and that whole to all the parts, which whole is one corporeal Nature.[20]

> The same may be said of all other particular and perfect figures. As for example: an Animal, though it be a whole and perfect figure, yet it is but a part of Earth, and some other Elements, and parts of Nature, and could not subsist without them; nay, for any thing we know to the contrary, the Elements cannot subsist without other Creatures: All which proves, that there are no single Parts, nor *Vacuum*…[21]

For Cavendish, entities that appear to be isolated and freestanding individuals are in fact surrounded by further bodies. She makes use of vivid examples to illustrate her case. We are not always surrounded by the same bodies, and we are not always surrounded by bodies that we notice, but we are always in a plenum:

> Neither is there any such thing as a stoppage in the actions of Nature, nor do parts move through Empty spaces; but as some parts joyn, so others divide by the same act; for although some parts can quit such or such parts, yet they cannot quit all parts; for example, a man goes a hundred miles, he leaves or quits those parts from whence he removed first; but as soon as he removes from such parts, he joyns to other parts, were his motion no more then a hairs breadth; so that all his journey is nothing else but a division and composition of parts, wheresoever he goes by water, or by land; for it is impossible

> for him to quit parts in general, although it be in his choice to quit such or such particular parts, and to join to what parts he will.[22]

Here Cavendish calls to mind the Spinozistic view that nature is not a collection of independent and swappable parts: when we imagine a region of bodies as such, we are omitting reference to the bodies that press upon the region and help to provide it structure.[23] A configuration in fact depends on the bodies that surround it; a configuration is the specific configuration that it is only if those (or sufficiently similar) bodies are present also. A given composite would also be different if the bodies that surrounded it were to undergo significant changes. Indeed, all bets would be off:

> no seeds can produce of themselves if they be not assisted by some other matter, which proves, that seeds are not the prime or principal Creatures in Nature, by reason they depend upon some other matter which helps them in their productions; for if seeds of Vegetables did lie never so long in a store-house, or any other place, they would never produce until they were put into some proper and convenient ground: It is also an argument, that no Creature or part of Nature can subsist singly and precised from all the rest, but that all parts must live together; and since no part can subsist and live without the other, no part can also be called prime or principal.[24]

> When I say, *That Animals by their shapes are not tied or bound to any other kind of Creature, either for support or nourishment, as Vegetables are, but are loose and free of themselves from all others:* My opinion is not, as if the animal figure were a single figure, precised from all the rest of natural parts or figures, or from the body of Nature, and stood in no need either of nourishment or support, but could subsist of it self without any respect or relation to other Creatures: But I speak comparatively, that in comparison to Vegetables, or such like Creatures, it is more free in its exterior progressive local motions then they, which as we see, being taken out of the ground where they grow, wither and change their interior natural figures; for animals, may by a visible progressive motion remove from such parts to other parts, which Vegetables cannot do: nevertheless Animals depend as much upon other parts and Creatures, as others depend on them, both for nourishment and respiration, *&c.* although they may subsist without being fixt to some certain parts of ground: The truth is, some animals can live no more without air, then fishes can live without water, or Vegetables without ground; so that all parts must necessarily live with each other, and none can boast that it needs not the assistance of any other part, for they are all parts of one body.[25]

> AS I have said, There are several kinds, and several sorts, and several particular Creatures of several kinds and sorts; whereof there are some Creatures of a mixt kind, and some of a mixt sort, and some of a mixture of some particulars. Also, there are some kind of Creatures, and sorts of Creatures; as also Particulars of a Dense Nature, others of a Rare Nature; some of a Leight Nature, some of a Heavy Nature; some of a Bright Nature, some of a Dark Nature; some of an Ascending Nature, some of a Descending Nature; some of a Hard Nature, some of a Soft Nature; some of a Loose Nature, and some of a Fixt Nature; some of an Agil Nature, and some of a Slow Nature; some of a Consistent Nature, and some of a Dissolving Nature: All which is according to the Frame and Form of their Society, or Composition.[26]

Cavendish supposes that no body subsists by itself and that any particular configuration of bodies is due in large part to the behavior of the bodies that surround it. No being is an island, she would insist. Surrounded by air and water, and undergirded by earth, not even an island is an island.

Cavendish does have to concede that at the very least we *seem* to be able to think of bodies that are freestanding and interchangeable. When we do think of a part, she argues, we are engaging in selective attention – we are thinking of some amount of matter in abstraction from the matter that surrounds it and that is integral to its individuation and identity. She writes,

> not that I think a Part can really subsist single and by it self, but it is onely considered so in the manner of our Conception, by reason of the difference and variousness of natural Creatures: for these being different from each other in their figures, and not all alike, so that we can make a distinction betwixt them; this difference and distinction causes us to conceive every part of a different figure by it self: but properly and according to the Truth of Nature, there is no part by it self subsisting; for all parts are to be considered, not onely as parts of the whole, but as parts of other parts, all parts being joyned in Infinite Nature, and tied by an inseparable tie one way or other, although we do not altogether perceive it.[27]

In holding that the universe is a plenum, Cavendish supposes that we are leaving out crucial information about an entity when our description of it does not make reference to the beings that surround it and to the beings that surround those. Part of what it is to be a specific individual is for a collection of bodies to have the configuration that it does, but an individual does not have the configuration that it does solely by means of its own devices. An interesting question to consider is whether or not Cavendish thinks that there

is a parallel between the connectedness of bodies in the plenum and the connectedness of ideas. Perhaps in the same way that there is matter in-between the bodies that we notice, ideas are also contiguous and are always surrounded by further ideas still: we think of a particular in abstraction from information that is relevant to its individuation, but we are just failing to notice the contiguous ideas that depict that information, and nature is "intirely wise and knowing." Again, this question will be considered further in chapter five.

Individuation

Cavendish holds that the configuration of a composite is due in part to the behavior of the bodies that surround it, but she of course recognizes the contribution of the bodies that compose the configuration itself. She takes for granted – presumably because she observes – that bodies within the plenum often enter into composites and then work in unison to maintain a relatively fixed proportion of motion. She then posits that bodies must have a drive to do this: otherwise the composites that we encounter would be very temporary, or they would not even exist at all. She writes,

> So, although a Creature is composed of several sorts of Corporeal Motions; yet, these several sorts, being properly united in one Creature, move all agreeably to the Property and Nature of the whole Creature; that is, the particular Parts move according to the property of the whole Creature…[28]

every Creature, if regularly made, hath particular motions proper to its figure; for natural Matters wisdom makes distinctions by her distinct corporeal motions, giving every particular Creature their due Portion and Proportion according to the nature of their figures, and to the rules of her actions…[29]

> as for Animal Creatures, there be some sorts that are composed of many different Figurative Motions; amongst which sorts, is Mankind, who has very different Figurative Parts, as Bones, Sinews, Nerves, Muscles, Veins, Flesh, Skin, and Marrow, Blood, Choler, Flegm, Melancholy, and the like; also, Head, Breast, Neck, Arms, Hands, Body, Belly, Thighs, Leggs, Feet, *&c.* also, Brains, Lungs, Stomack, Heart, Liver, Midriff, Kidnies, Bladder, Guts, and the like; and all these have several actions, yet all agree as one, according to the property of that sort of Creature named MAN.[30]

Cavendish takes as a datum that there are composites that exist for an extended but temporary stretch of time and that the bodies that compose these work together for the sake of preserving the larger whole. Bodies just *do*

this, Cavendish supposes; she will not offer an argument for something that is presumably so obvious.[31] She also supposes that since all composites are in the same boat, any given composite is always under threat. She writes,

> because there is no *absolute power,* therefore there be Disputes, and will be eternally: for the several degrees of *matter, motion,* and *Figure* strive for the Superiority…[32]

> corporeal motions endeavour to make place and space by their extensions, that is, to spread their parts of matter into a larger compass or body.[33]

Cavendish supposes that an individual is a collection of bodies that work together to maintain a more-or-less fixed proportion of motion. If other individuals are doing this also, a given individual will persist for as long as external bodies do not overwhelm it. An individual might last longer if it is part of a larger individual and if all of *its* parts are working in concert to preserve a quantity of motion. A configuration might also benefit from recycling some of its bodies. However, a configuration will always give out in due time:

> THose Parts (as I have said) that were the First Founders of an Animal, or other sort of Creature, may not be constant Inhabitants: for, though the Society may remain, the particular Parts may remove: Also, all particular Societies of one kind, or sort, may not continue the like time; but some may dissolve sooner than others. Also, some alter by degrees, others of a sudden; but, of those Societies that continue, the particular Parts remove, and other particular Parts unite; so, as some Parts *were* of the Society, so some other Parts *are* of the Society, and *will be* of the Society: But, when the Form, Frame, and Order of the Society begins to alter, then that particular Creature begins to decay.[34]

Bodies can enter and exit a configuration, Cavendish notes, and they do. The configuration remains in existence for a finite stretch of time – in part because of the new bodies that come to regenerate it – but at some point a configuration is no longer able to survive.

Cavendish does not attempt to provide an explanation for why a given composite would break down – other than to say that its constituents have ceased to work together and are no longer able to withstand the strivings of the bodies that surround it. She writes,

> when several parts of Matter meet or joyn with equal force and power, then their several natural motions are either quite altered, or partly mixt: As for example; some received things not agreeing with the natural constitution of the body, the corporeal motions of the

received, and those of the receiver, do dispute or oppose each other: for the motions of the received, not willing to change their nature conformable to the desire of the digestive motions, do resist, and then a War begins, whereby the body suffers most; for it causes either a sickness in the stomack, or a pain in the head, or in the heart, or in the bowels, or the like: Nay, if the received food gets an absolute victory, it dissolves and alters oftentimes the whole body, it self remaining intire and unaltered, as is evident in those that die of surfeits. But most commonly these strifes and quarrels, if violent, do alter and dissolve each others forms or natures.[35]

In some cases contiguous bodies work in unison, but in other cases they work in opposition. Cavendish does not take herself to be providing us an explanation for why a given composite would lead to the destruction or discombobulation of another collection of bodies, other than to reference observations to the effect that some composites disagree with each other and some do not. Nor does she pretend to have any idea why some composites last very long, and some do not. These are just among the things that happen:

> some Vegetables are old, and decrepit at a day old, others are but in their prime after a hundred yeers, and so some Animals, as flies and the like, are old and decrepit at a yeer old; others, as man is but at his prime at twenty yeers, and will live a hundred yeers, if he be healthy and sound; so in the Minerals, perchance lead, or tin, or the like, is but a flie, for continuance to gold, or like a flower to an oak, then it is probable, that the Sun and the rest of the Planets, Stars, and Millions more that we know not, may be at their full strength at ten hundred thousand yeers, nay million of millions of yeers, which is nothing to eternity or perchance, as it is likely, other figures were at full strength when matter and motion created them, and shall last until matter dissolves them.[36]

A kind of explanation that Cavendish *does* offer is that some composites are collectively strong enough to withstand the attempts by external bodies to break them down, at least for a while. She writes,

> Some *Figures* are stronger built then others, which makes them last longer: for some, their building is so weak, as they fall as soon as finished; like houses that are built with stone, or Timber, although it might be a stone-house, or timber-house, yet it may be built, not of such a sort of Stone, or such a sort of Timber.[37]

We might then build on such explanations and say more about differences between (for example) the bodies that make up stone and the bodies that

make up wood. Cavendish recognizes that this would be a very important line of inquiry, and would require patient and meticulous observations, but given her larger view of explanation we would just be describing additional brute facts. Bodies enter into composites, and they do so by virtue of the impressive powers and abilities that they have; composites work to overtake other composites, and to avoid being overtaken themselves, but at some point they give out. This is not an explanation, of course, as much as a restatement of what happens. Cavendish would describe the process as familiar, but also remarkable and magical.

Causality as necessary connection

Cavendish holds that bodies are always in contact with other bodies in the plenum and that the integrity of a given composite depends in part on the behavior of the bodies that surround it. She holds more generally that a plenum allows for very little wiggle room: the behavior of any body is always a function of its own motions and the motions of the bodies that are touching them, and the bodies that are touching those. At any given moment, there is a fact of the matter about the details of these motions, and at any given moment the behavior of every body is necessitated by these.[38] That is to say, Cavendish assumes with Descartes, Spinoza, Malebranche, and others that there is a necessary connection between a cause and its effect.[39] Cavendish does not use the exact expression – "necessary connection" – but what she says is that a given cause is sufficient to bring about its effect, which is to say that if a given cause (or set of causes) is in place, then the effect is guaranteed to follow. She writes,

> *FOrtune,* is only various Corporeal Motions of several Creatures, design'd to one Creature, or more Creatures; either to *that* Creature, or *those* Creatures Advantage, or Disadvantage: If Advantage, Man names it *Good Fortune*; if Disadvantage, Man names it *Ill Fortune.* As for *Chance,* it is the visible Effects of some hidden Cause; and *Fortune,* a sufficient Cause to produce such Effects: for, the conjunction of sufficient Causes, doth produce such or such Effects; which Effects could not be produced, if any of those Causes were wanting…[40]
>
> Chances (said she) are visible Effects from hidden Causes; and Fortune, a conjunction of many sufficient Causes to produce such an Effect; since that Effect could not be produced, did there want any one of those Causes, by reason all of them together were but sufficient to produce…[41]
>
> [T]he Effects… are so united to the material Cause, as that not any single effect can be, nor no Effect can be annihilated; by reason all Effects are in the power of the Cause.[42]

Cavendish supposes that if a conjunction of bodies (and their motions) is the cause of an effect, the effect has to occur if that cause is in place. We might point to a scenario in which we think a cause is in place and the effect does not occur, but Cavendish has systematic reasons for thinking that in any such case we are mistaken: we often fail to notice all of the bodies that are before us, and if the effect does not in fact follow, the cause was not entirely present. Or, we might think that we have observed cases in which a cause is in place but the same effect does not always follow. Cavendish would respond that in each of these cases the cause necessitated the particular effect that it produced and that, when the effects are different, the causes were different also. She writes,

> I Will not dispute, according to *Copernicus,* that the earth goes about, & the Sun stands stil, upon which ground *Galleleo* saith, the reason of the ebbing and flowing of the sea, is the jogging of the earth, the old opinion is, that the moon is the cause of it, which I can hardly beleeve, for mark the tide from *Scotland* to *Margel* when the moon hath the same influence, and the tide is so many hours in coming from *Scotland* to *Margell* as if one rid post, if it were the moon, why should it not be high water, or full tide *Margell,* that it is in *Scotland* at the time, the power of the moon being all one, so that comes very improbable to me, for many things fall out at the same time, and yet the one not cause of the other, and in Philosophy there is nothing so ordinary, as to mistake the cause of things, since indeed the things for the most part are hid from us…[43]

We should not say that the activity of the moon is the cause of the behavior of the tides on earth; it is one of *many* causes. If it were the only cause, its effect would always be the same, yet the tides on earth are often very different, even in places that are relatively proximate. Additional causes include the motions of the bodies that compose each local region of water, and also the behavior of the bodies that surround those. Cavendish supposes that our selective attention keeps us from noticing the causal contribution of most of the bodies in our environment, and also the bodies in the remainder of the plenum. As she had argued in the case of the empirical work of medical scientists, she thinks that generally speaking we need to be assiduous in our observations or else we will fail to notice causal variables that are indispensable to the production of an effect. She is also making an important point about how we go about recognizing causes and effects. We tend to single out a particular entity that we take to be the most prominent cause, but there are always numerous causes in play, and indeed the entity that we single out as most prominent would not have the abilities that it does if not for the behavior of the bodies that surround it.

Cavendish holds that there is a necessary connection between a cause and its effect, and she is thereby committed to the view that material bodies

exhibit orderly patterns of behavior that are law-like and exception-less.[44] Given the state of all the bodies in the universe – the fact-of-the-matter motions of each body and the fact-of-the-matter motions of the bodies that surround it – the universe can exhibit only one possible configuration in the moment that follows. We might suppose that there is randomness and that a given cause is not always followed by the same effect, but we would be mistaken:

> And as for Irregularities, properly there is none in Nature, for Nature is Regular; but that, which Man (who is but a small part of Nature, and therefore but partly knowing) names Irregularities, or Imperfections, is onely a change and alteration of motions; for a part can know the variety of motions in Nature no more, then Finite can know Infinite…[45]
>
> Nature takes so much delight in variety, that she is pleased with them, yet they are not to be compared to her wise and fundamental actions; for Nature, being a wise and provident Lady, governs her parts very wisely, methodically and orderly…[46]
>
> Nature hath a constant and setled course in all she doth…[47]

We might identify certain configurations of bodies as random or irregular, or as failing to exhibit organization, but Cavendish is supposing that when we do this we are simply reflecting our limited epistemic situation.[48] On the basis of the incomplete information that we have assembled, and on the basis of our own needs and interests, we form expectations about what counts as order.[49] We attribute a deficiency to developments that run counter to these expectations, when the deficiency is instead in our knowledge:

> regularity and irregularity hath but a respect to particulars, and to our conceptions, because those motions which move not after the ordinary, common or usual way or manner, we call Irregular. But the curiosity and variety in Nature is unconceiveable by any particular Creature…[50]
>
> I mean Irregular, as to particular Creatures, not as to Nature her self, for Nature cannot be disturbed or discomposed, or else all would run into confusion; Wherefore Irregularities do onely concern particular Creatures, not Infinite Nature…[51]

Cavendish holds that every effect has a prior and sufficient cause and thus that there is a cause for each and every thing that happens, if we could just uncover it. There is no such thing as chance; instead, there is the incomplete information of finite minds. There is no such thing as disorder; instead there are events that run counter to our parochial expectations and concerns.

Cavendish recognizes that some entities can appear to have a kind of radical independence from the beings that surround them. If that appearance is correct, it is false that the motion of a body at any given moment is necessitated as a function of its own motion and the motions of the bodies that surround it. For example, human beings might appear to have an ability to choose other than they in fact do, all relevant causes being identical. Cavendish responds that, like all creatures, a particular human being is always enveloped in the plenum and that we are mistaken when we think that we are first causes:

> But man, and for all that I know, all other things, are governed by outward Objects, they rule, and we obey; for we do not rule and they Obey, but every thing is led like dogs in a string, by a stronger power, but the outward power being invisible, makes us think, we set the rules, and not the outward Causes, so that we are governed by that which is without us, not that which is within us; for man hath no power over himself.[52]

Cavendish's compatibilist view of human freedom will be considered in detail in chapter six.[53] For now it is important to note that she takes the material universe to be a plenum of bodies, and she takes the configuration of any given individual to depend on its own motions and the motions of the bodies that surround it. Sometimes the bodies that surround an individual will work with the individual to provide it support, and in such cases the individual is acting freely (in a compatibilist sense). We might say in addition that in the short term the individual and its surroundings are operating in unison as a larger individual. In other cases, bodies oppose each other: a collection of bodies will attempt to do things to another body that run counter to its aims and interests. She writes,

> some [creatures or parts of nature] may over-power others, as the fire, hammer and hand doth over-power a Horse-shooe, which cannot prevail over so much odds of power and strength; And so likewise it is with sickness and health, life and death; for example, some corporeal motions in the body turning Rebels, by moving contrary to the health of an animal Creature, it must become sick; for not every particular creature hath an absolute power, the power being in the Infinite whole, and not in single divided parts…[54]

> some parts of Matter will cause other parts to work and act to their own will, by forcing these over-powred parts to alter their own natural motions into the motions of the victorious Party, and so transforming them wholly into their own Figure…[55]

> those motions which make cold and heat, I may fimilife to wandring armies, of the *Gothes,* and *Vandals,* which over-run all figures, as they

all the world, sometimes they work attractive, contractive, retentive, disgustive, expulsive, according to the temper and degree of matter, and proportion and shape of the figures they meet, or according to their own power and strength, and although both cold and heat, are motions that work more or lesse upon all the figures in this world, yet cold heat works not upon figure alike, but differ as their figures differ, nor are cold and heat directly the same motions, although they be of the same kinde of motions, no more then several sorts of beasts kinde, yet all beasts are of Animal kinde, and most commonly like several sorts of beasts that falleth out, or rather like two equal powerful Monarchies, that oppose one anothers power, and fight for preheminency, where sometimes one gets the better, and then the other, sometimes by strength, and sometimes by advantage, but when there is a truce, or a league, they have a common commerce, joyning their motions, working sympathetically together, which produceth an equall temper.[56]

Cavendish holds that bodies often have an impact on each other, and sometimes obstruct each other's freedom, even though she also holds that there is never an occurrence of a mere transfer of motion. Bodies do not impart motion to each other (unless they also impart substance), but a body can redirect the motion that is already in another body, "forcing these over-powred parts to alter their own natural motions into the motions of the victorious Party."

The competition among individuals to retain their quantity of motion

The bodies of a composite strive to retain their configuration, and sometimes they are in conflict with surrounding bodies that work to overtake or oppose them. These surrounding bodies would be striving as well, behaving in ways that reflect an exceptionless order, even if the ensuing competition can seem far short of harmonious:

> But since there would be no variety in Nature, nor no difference between Natures several parts or Creatures, if her actions were never different, but always agreeing and constant, a war or rebellion in Nature cannot be avoided: But, mistake me not, for I do not mean a war or rebellion in the nature of substance of Matter, but between the several parts of Matter, which are the several Creatures, and their several Motions; for Matter being always one and the same in its nature, has nothing to war withal; and surely it will not quarrel with its own Nature.[57]

though the actions of Nature were different and opposite to each other, yet they did cause no disturbance in Nature, but they were ruled and governed by Natures wisdom; for Nature being peaceable

> in her self, would not suffer her actions to disturb her Government; wherefore although particulars were crossing and opposing each other, yet she did govern them with such wisdom and moderation, that they were necessitated to obey her and move according as she would have them.[58]

For Cavendish, there is a spectrum of different kinds of relationship that a body has to the bodies in its nearby environment. There are instances in which contiguous bodies have the same goals and interests, or at least compatible goals and interests, and there occurs a transfer of motion (and substance) that is welcome to all parties. In other cases, goals and interests coincide, but substance and motion are not transferred: a body comes into contact with a second body and redirects its motion, and the second body is fully accommodating. In this sort of case it will be very difficult to distinguish between two individuals that are working together in concert and two individuals that have become a larger individual temporarily. In yet other cases, a body might redirect the motions of a body in a way that runs counter to its goals. The first body might succeed, but if the second body does not eventually give in, the first body will have to exert its pressure continuously. The outcome might be a situation of long-term instability, or the second body might take on the goals of the first body as its own, or it might eventually dissipate and become part of a different composite altogether.

Cavendish will thus say in the very same breath that bodies do not obtain their motion from other bodies and that their behavior is sometimes forced or obstructed:

> That Nature's Parts move themselves, and are not moved by any Agent. Secondly, Though Nature's Parts are Self-moving, and Self-knowing, yet they have not an infinite or uncontrolable Power; for, several Parts, and Parties, oppose, and oft-times obstruct each other; so that many times they are forced to move, and they may not when they would.[59]

> there is no particular Creature, that hath an absolute power of self-moving; so that Creature which hath the advantage of strength, subtilty, or policy, shape, or figure, and the like, may oppose and over-power another which is inferior to it, in all this; yet this hinderance and opposition doth not take away self-motion.[60]

Cavendish is not being inconsistent in holding both that motion is never transferred from one body to another and also that bodies overwhelm, overpower, and obstruct each other. Even when a body forces another body to do something, the other body moves by its own internal motions, which are never transferable:

> When I say, *A thing is forced,* I do not mean that the forced body receives strength without Matter; but that some Corporeal Motions joyn with other Corporeal Motions, and so double the strength by joyning their parts, or are at least an occasion to make other parts more industrious.[61]

For Cavendish, a body always moves by way of motions that it already has. If one body forces another body to move in a certain way, the first body either adds some of its motion and substance to the second body, or it redirects motion that is in the second body. This *has* to be right, she thinks, if there can be no transfer of motion that is not also a transfer of substance. For any body that appears to receive motion (without substance), it already has motion, as does a body that appears to be at rest:

> though a particular motion doth not move in that same manner as it did before, nevertheless it is still there, and not onely there, but still moving; onely it is not moving after the same manner as it did move heretofore, but has changed from such a kind of motion to another kind of motion, and being still moving it cannot be said to cease: Wherefore what is commonly called cessation from motion, is onely a change of some particular motion, and is a mistake of change for rest.[62]

> when a man for example shakes his hand, and when he leaves shaking, whether is that motion gone (say others) no where, for that particular motion ceaseth to be, say they. I answer, that my reason tells me, it is neither fled away, nor ceased to be, for it remains in the hand, and in that matter that created the hand, that is in that, and the like innated matter, that is in the hand. But some will say, the hand never moves so again, but I say the motion is never the lesse there, they may as well say, when they have seen a Chest full of Gold, or the like, and when their eyes are shut, or that they never see it more, that the Gold doth not lie in the Chest, although the Gold may lie there eternally… So likewise particular motions are, but shewed, not lost, or Annihilated…[63]

A body that appears to receive motion from another body, but does not receive any of its substance, has internal motions that we simply did not notice. We do not notice all of the internal motions of a given configuration, but "there are millions of several motions [that] go to the making of one figure."[64] Cavendish can thus make sense of how bodies do not transmit motion to each other but still contribute to each other's motion and behavior. A body can redirect the existing motions of another body – in a way that is in accord with the goals of the second body, or in a way that is not.[65] It would

do this by contact. A body can also add its substance and motion to another body and form a larger composite with it.

Patterning and other kinds of interaction

As we saw in chapter one, Cavendish holds that another sort of interaction between bodies is the patterning that is involved in sensory perception: an external body presents an image of itself to the sense organs of the perceiver, and bodies in the sense organ combine to form a copy of the image. As in other instances of interaction, motion is not transferred from body to body:

> it is not probable, that the motions of the stone, water, sand; &c. should leave their bodies and enter into the stick, and so into the hand; for motion must be either something or nothing; if something, the stick and the hand would grow bigger, and the objects touched less, or else the touching and the touched must exchange their motions, which cannot be done so suddenly, especially between solid bodies; But if motion has no body, it is nothing, and how nothing can pass or enter or move some body, I cannot conceive. Tis true there is no part that can subsist singly by it self, without dependance upon each other, and so parts do always joyn and touch each other, which I am not against; but onely I say perception is not made by the exterior motions of exterior parts of objects, but by the interior motions of the parts of the body sentient.[66]

In the case of sensory perception, an external body comes into contact with a sense organ, and bodies in the sense organ arrange to form an image of the body. The bodies in the sense organ thereby move, but they do not move by means of motions that have been transferred from the external body. Motion is never transferred in cases of perception or otherwise:

> This is the reason, which denies that there can be a translation of motion out of the moving body into the moved; for questionless, the one would grow less, and the other bigger, that by loosing so much substance, this by receiving.[67]

Cavendish holds that in the case of patterning, neither motion nor substance is transferred from an external body to a sense organ. Sense organs do not become larger in the course of having a perception, for example, but bodies that compose the organ adjust to the image presented by the external body and pattern a copy of it. We have also seen that Cavendish holds that there is a necessary connection between a cause and its effect and that when bodies in the material universe are in a given configuration at a given moment, there is only one configuration that can result. She is thereby committed to the view that

when the bodies of a sense organ pattern an image of an external body, there is no possibility that the bodies do not form that image. They do form the image freely and by means of motions that are their own – because an amount of motion is not separable from the bodies that have it. They are not forced or coerced: Cavendish instead supposes that the bodies that combine to form an image of an external body are behaving in ways that are amenable to their own goals and interests and to the goals and interests of the larger individual of which they are a part. Presumably she is just recognizing that a perceiver benefits from garnering information about the beings that surround it.

In addition to patterning, Cavendish speaks of other specific kinds of interaction that take place between bodies – especially *translation* or *transmigration*. This is a kind of interaction in which a body shares some or all of its substance and motion with another body. Transmigration is literally the movement of a configuration of bodies to join together with other bodies and form a larger whole:

> You'l say, perhaps, that the hand and the bowl may exchange motions, as that the bowls own motion doth enter into the hand, and supply that motion which went out of the hand into the bowl, by a close joyning or touch, for in all things moving and moved, must be a joyning of the mover to the moved, either immediate, or by the means of another body. I answer: That this is more probable, then that the hand should give out, or impart motion to the bowl, and receive none from the bowl; but by reason motion cannot be transferred without matter, as being both inseparably united, and but one thing; I cannot think it probable, that any of the animate or self-moving matter in the hand, quits the hand, and enters into the bowl; nor that the animate matter, which is in the bowl, leaves the bowl, and enters into the hand, because that self-moving substance is not readily prepared for so sudden a Translation or Transmigration.[68]

There is a trans-*migration* when a body literally moves and becomes a part of another. In some cases of transmigration, the addition of substance and motion is amenable to the "patient" body, and in some cases it is not. In the latter sort of case, one body might be more powerful than another, and also destroy it. In the former sort of case, the two bodies might work in unison toward a common goal. An example is generation:

> indeed all creatures are created by the way of transmigration. As for example, hens, or other fouls lay eggs, and then sit on them, from whence a nourishing heat is transmigrated from the hen into the eggs, which transmigrates into a kinde of a Chylus, then into blood, blood into flesh, flesh into sinews, sinews into bones, and some into veines, arteries, brains, and the like. For transmigration is onely the

> mixing sifting, searching, tempering faculty, of innated matter, which is self-motion, and motion is the onely transmigrater…[69]

There will be differences in the contributions that any given body makes in an instance of generation, but if there are not a number of bodies that are contributing in a roughly equal manner, we just have a case of one body that is incorporating and dominating the others. She writes,

> one Creature cannot naturally produce another without the transferring of its corporeal motions. But it is well to be observed, that there is great difference between the actions of Nature; for all actions are not generating, but some are patterning, and some transforming, and the like; and as for the transforming action, that may be without translation, as being nothing else but a change of motions in one and the same part or parts of Matter, to wit, when the same parts of Matter do change into several figures, and return into the same figures again. Also the action of Patterning is without Translation; for to pattern out, is nothing else but to imitate, and to make a figure in its own substance or parts of Matter like another figure. But in generation every producer doth transfer both Matter and Motion, that is, Corporeal Motion into the produced; and if there be more producers then one, they all do contribute to the produced; and if one Creature produces many Creatures, those many Creatures do partake more or less of their producer.[70]

Cavendish supposes that composites always form out of existing bodies and that there is a whole spectrum of contributions that these bodies make to the integrity of the larger individual, as a function of their motion and power.

The line between cases of translation that are also cases of generation, and cases of translation that are not, will accordingly be difficult to draw. Cavendish supposes that it is also difficult to make a distinction between the producers or parents of an offspring and the other bodies that enter into its formation:

> But you may say, If the producer transfers its own Matter, or rather its own corporeal motions into the produced, many productions will soon dissolve the producer, and he will become a sacrifice to his offspring. I answer; That doth not follow: for as one or more Creatures contribute to one or more other Creatures; so other Creatures do contribute to them, although not after one and the same manner or way, but after divers manners or ways; but all manners and ways must be by translation to repair and assist; for no Creature can subsist alone and of it self, but all Creatures traffick and commerce from and to each other, and must of necessity do so, since they are all parts of the same Matter…[71]

We cannot make the cleanest distinction between cases of translation that are cases of generation, and cases that are not, and we cannot make the cleanest distinction between the bodies that are the parents of an offspring and those that are not. Cavendish does not go to great lengths to make these distinctions herself. Nor does she suppose that we can say exactly which bodies contribute what: bodies cannot be said to be weak or powerful in isolation, and their features are in part a function of the behavior of the bodies that surround them. What we can do is recognize that there is a whole range of varied and complicated activity that takes place in the plenum, and take at least some steps to keep together the composites that concern us.

The plenum as eternal

Cavendish subscribes to the view that the universe is a plenum of bodies, and she also subscribes to the view that the plenum is eternal. Bodies tend to enter into composites, she thinks, and these last for a finite duration of time. The elements of a configuration strive to retain their integrity, but any configuration will eventually break down in the face of outside forces and pressures. There is destruction in the case of composites, but not in the case of the matter that composes them:

> THERE is no *first matter,* nor *first Motion;* for *matter* and *motion* are *infinite,* and being *infinite,* must consequently be *Eternal*…[72]

We will need to get clear on exactly what Cavendish means in stating that the universe is infinite and eternal; that will come out in a discussion of the particular arguments.

As she does in the defense of other positions, Cavendish offers both theological and non-theological arguments for the conclusion that the material universe is eternal. The primary theological argument is from God's nature as infinite and active. That is, there is a certain kind of product that we would expect to result from God's will, given what we know about His nature:

> I see no reason, but since, according to your *Author,* God, as the prime Cause, Agent, and Producer of all things, and the action by which he produced all things, is Infinite; the Matter out of which he produced all particular Creatures may be Infinite also. Neither doth it, to my sense and reason, imply any contradiction or impiety; for it derogates nothing from the Glory and Omnipotency of God, but God is still the God of Nature, and Nature is his Servant, although Infinite, depending wholly upon the will and pleasure of the All-powerful God… God being Infinite, cannot work finitely; for, as his Essence, so his Actions cannot have any limitation, and therefore it is most probable, that God made Nature Infinite; for though each part

of Nature is finite in its own figure, yet considered in general, they are Infinite, as well in number, as duration, except God be pleased to destroy them; nay, every particular may in a certain sense be said Infinite, to wit, Infinite in time or duration; for if Nature be Infinite and Eternal, and there be no annihilation or perishing in Nature, but a perpetual successive change and alteration of natural figures, then no part of Nature can perish or be annihilated; and if no part of Nature perishes, then it lasts infinitely in Nature, that is, in the substance of natural Matter; for though the corporeal motions, which make the figures, do change, yet the ground of the figure, which is natural matter, never changes.[73]

Here Cavendish is assuming that if God is infinite and eternal, He would not act "finitely," and His creation would not be finite either. His creative activity would be infinite and eternal, as would be its products. One of these products, she supposes, is the actual material universe, which is therefore "infinite in time and duration." It is a creature – something that "depend[s] entirely on the will and pleasure of the All-powerful God" – but it exists concurrently with the activity of His incessantly productive will.

Cavendish also appeals to non-theological maxims to generate the view that the universe is infinite and eternal. To argue that the universe is eternal, she posits that something cannot come from nothing and that nothing can ever be destroyed. She writes,

> it is as difficult for Nature to turn something into nothing, as to Create something out of nothing; Wherefore as there is no annihilation or perishing in Nature, so there is neither any new Creation in Nature.[74]
>
> [it is] impossible, to wit, that something should be made or produced out of nothing; for if this were so, there would consequently be an annihilation or turning into nothing…[75]
>
> [T]here can be nothing lost in nature.[76]
>
> [S]urely whatsoever is in Nature, hath been existent always.[77]

There is an important sense in which there is nothing new in nature, Cavendish thinks, even if composites move in and out of existence all the time. As we saw in chapter two, she supposes that matter is always divisible, so she does not posit the existence of atoms; but she also supposes that bodies are not always in fact divided. There exist "the least particle[s] of Nature [that] remain as long as Nature her self,"[78] and also the shorter-lived composites that are made of these:

> to my reason, there neither is, nor can be made any new being in Nature, except we do call the change of motions and figures a new

> Creation; but then an old suit turned or dressed up may be called new too.[79]

Cavendish supposes that there are maxims of reason that are extremely intuitive and that lead us to straightforward conclusions about the nature of reality. In this instance she is leveraging such maxims to yield the result that the amount of matter in the universe is constant, that the universe is eternal, and that the only destruction that ever takes place is the decomposition of an aggregate.

Cavendish of course recognizes that the result might come across as heretical. She will proceed very cautiously here. She will follow through to the conclusions that maxims of reason entail, but at the same time she will allow that any conclusions that are so generated might still be false. She holds that for all we know we are mistaken about matters that are evident to us, and she says more specifically that since nothing is impossible for God, strictly speaking it is possible that something could come from nothing. And God could reduce things to nothing as well:

> Wherefore, if it be (as in Reason it cannot be otherwise) that nothing in Nature can be annihilated, nor any thing created out of nothing, but by Gods special and all-powerful Decree and Command, then Nature must be as God has made her, until he destroy her.[80]
>
> God, by his Omnipotency, may reduce the World into nothing; but this cannot be comprehended by natural reason.[81]

On the one hand, Cavendish maintains that the pictures of reality that we take to be the clearest and most perspicuous might turn out to be nothing more than that – pictures that we take to be perspicuous. In addition, she wants to be pious and insist that we should never say of anything that it is impossible for God. On the other hand, she supposes that we should use our cognitive faculties as best we can. We should call attention to the perspicuous axioms that they uncover, and the results that they deliver us.

The eternal plenum and orthodoxy

As we have seen, Cavendish appeals to a number of axioms in the course of defending her philosophical system. One is that only bodies partake of motion; another is that bodies can only interact with bodies. Two other axioms are that something cannot come from nothing and that being can never be destroyed, but only redistributed and dispersed. Cavendish appeals to these to yield the conclusion that the universe is eternal. Her opponent might argue that we have no reason to trust the axioms of reason on which the conclusions are based, and that one of the reasons that we should not

trust them is that they entail results that run counter to Church doctrine. Cavendish will reply by conceding that perhaps the axioms *are* false, but they are the best that we can come up with. She would also allow that we should resist the entailments of such axioms if they conflict with Church doctrine, but she will suggest that we also be fallibilistic with respect to our assessment of whether or not such conflict is actually present. For example, there might just be an imprecision in our language:

> You will say, If Nature were Eternal, it could not be created, for the word Creation is contrary to Eternity. I answer, *Madam,* I am no Scholar for words; for if you will not use the word Creation, you may use what other word you will; for I do not stand upon nice words and terms, so I can but express my conceptions…[82]

The non-theological theses of the philosopher or scientist might only seem to conflict with orthodoxy, Cavendish is suggesting. They might just be in need of clearer expression.

Or perhaps we will notice upon reflection that the language of the philosopher or scientist is fine as it is:

> I think there is not any passage which plainly denies Matter to be Infinite, and Eternal, unless it be drawn by force to that sense: *Solomon* says, *That there is not any thing new:* and in another place it is said, *That God is all fulfilling;* that is, The Will of God is the fulfilling of the actions of Nature: also the Scripture says, *That Gods ways are unsearchable, and past finding out.* Wherefore, it is easier to treat of Nature, then the God of Nature; neither should God be treated of by vain Philosophers, but by holy Divines, which are to deliver and interpret the Word of God without sophistry, and to inform us as much of Gods Works, as he hath been pleased to declare and make known.[83]

> by the All-powerful Decree and Command of God, out of that pre-existent Matter that was from all Eternity, which is infinite Nature; for though the Scripture expresses the framing of this World, yet it doth not say, that Nature her self was then created; but onely that this world was put into such a frame and state, as it is now; and who knows but there may have been many other Worlds before, and of another figure then this is: nay, if Nature be infinite, there must also be infinite Worlds; for I take, with *Epicurus,* this World but for a part of the Universe…[84]

> Nature being the Eternal servant and Worshipper of God, God hath been also eternally worshipped and adored; for surely God's Adoration and Worship has no beginning in time: neither could God be

worshipped and adored by himself so, as that one part of him should adore and worship another; for God is an individual and simple Being, not composed of parts; and therefore, as it is impossible for me to believe, that there is no general Worship and Adoration of God, so it is impossible also to believe, that God has not been adored and worshipped from all Eternity, and that Nature is not Eternal; for although God is the Cause of Nature, and Nature the Effect of God, yet she may be Eternal however, there being nothing impossible to be effected by God; but he, as an Eternal Cause, is able to produce an Eternal Effect, for although it is against the rules of Logick, yet it is not above the power of God.[85]

Cavendish is careful to be sensitive to Church doctrine and to descriptions of God's nature as omnipotent, eternal, immutable, and perfect. She is eager to point out how her own metaphysical views are quite consistent with these, and to point out that one of the non-theological issues on which Church authorities might be mistaken is the interpretive issue of when a view is in conflict with scripture and when it is not. In the end she will retreat from views that the Church identifies as counter to Church doctrine, but not before raising questions about which in fact these are.

The universe as infinite

Cavendish holds that the universe is eternal, or infinite in duration, and she also holds that the universe is infinite "in number." She understands the infinitude of the universe as its totality: it is infinite in the sense that it is unbounded and in the sense that there exists nothing to bound or limit it. That is, the universe is infinite and has infinite reality just in the sense that it constitutes all reality.[86] She writes,

> Nature being infinite, is all within it self, and has nothing without or beyond it, because it is without limits or bounds; but interiously, so that all the motions that are in Nature are within her self…[87]
>
> infinite is that which has no terms, bounds or limits; and therefore it cannot be circumscribed; and if it cannot be circumscribed as a finite body, it cannot have an exterior magnitude and figure as a finite body, and consequently no measure. Nevertheless, it is no contradiction to say, it has an Infinite magnitude and figure; for although Infinite Nature cannot have any thing without or beyond it self, yet it may have magnitude and figure within it self, because it is a body, and by this the magnitude and figure of infinite Nature is distinguished from the magnitude and figure of its finite parts; for these have each their exterior and circumscribed figure, which Nature has not.[88]

Cavendish takes body and space to be identical. However, if body and space are identical, there is no empty space into which the plenum of bodies might expand:

> it seems *Pythagoras* understands by the World, no more then his senses can reach; so that beyond the Celestial Orbs he supposes to be an infinite *Vacuum;* which is as much as to say, an infinite Nothing; and my reason cannot apprehend how the World can breath and respire into nothing, and out of nothing.[89]

There is a plenum of matter that exists right now, Cavendish supposes; that is the material universe. There is nothing outside of this plenum: no space into which it could expand. There are no gaps to separate the universe from any worlds that would exist outside of it, and there is no empty space on the outside of the universe either. There is just no ontological grid.

Cavendish also illustrates the conclusion that there is a constant amount of matter in the universe by appeal to the maxim that something cannot come from nothing. There is a plenum of matter that exists right now, she supposes, but it cannot generate any additional matter, and in addition none of its matter could ever be destroyed:

> nor can a single Part produce another single Part; for, Matter cannot create Matter; nor can one Part produce another Part out of it self…[90]

If there exists some amount of matter, it is a plenum that cannot create additional matter. The matter that exists cannot produce more matter, and in addition matter can never be destroyed. For Cavendish, the universe is infinite in the sense that it is unlimited, but it is unlimited in the sense that there is nothing that bounds or limits it. There is no empty space into which matter might expand, and the plenum can never produce any new matter (or space) in addition to the matter and space that already exist.

It is also interesting to consider the question of whether or not Cavendish understands the temporal infinitude or eternality of the universe in terms of its lacking (temporal) boundaries. If we assume that she is using the term "infinite" to describe the universe as infinite in time in the same sense that she uses it to describe it as infinite in number, she would subscribe to the view that there is a fixed amount of time through which the universe perdures, and that the eternity of the universe amounts to its existence at every moment. There would be no time prior to this fixed amount of time, and no time after; there would be no outside to the timeline, and no temporal grid. It is extremely tempting to speculate on the details of Cavendish's view of the infinitude of time, but she does not fill in many of the blanks. She does say that in the same

way that a body and its space are identical, the motions of a body are identical to the duration over which they unfold.[91] She is thereby committed to saying that there is never a time that is devoid of bodies, but that still leaves open whether or not the duration of the plenum is constant and fixed. In the case of her understanding of the infinitude of the extension of the material universe, she fills in the blank with (for example) the premise that something cannot come from nothing. She offers no such assistance in the case of her view that the universe is infinite in duration.

But she is very clear that the universe is infinite in the sense that there exists nothing to bound or limit it. Indeed, there is a sense in which the universe for Cavendish is actually finite, although she would not prefer that language herself. There is a constant amount of matter that composes the plenum; there is no expansion of the plenum into empty space, and matter can never produce more of itself than the plenum already (and for all eternity) contains. Thus far I have suggested that Cavendish is not just a determinist, but that (presumably like Spinoza)[92] she is a full-blown necessitarian. The central argument for this interpretation of Cavendish is speculative, but it hinges on the question of the room that Cavendish leaves in her ontology for unactualized possibility. That is, it hinges on the question of the room that Cavendish leaves in her ontology for anything other than the actually existing bodies of the plenum. We might ask for example if she allows that there might be non-actual existents that could interact with bodies and make them do otherwise than is dictated by the motions and configurations within the actually existing plenum itself. Cavendish does allow that there might exist immaterials – for example immaterial finite spirits and God – but it is not clear how these could constitute alternative possibilities that are relevant to the happenings of the plenum: immaterials cannot make a difference, at least if we take seriously the principles of reason that Cavendish puts forward and then follow them through to their consequences. For Cavendish, unactualized possible reality cannot be anywhere *in* the plenum – at least not any possible reality that could make a difference – but it could not be outside of the plenum either, where there is no ontological grid. She does allow that there are situations that we can imagine but that do not obtain,[93] but on her view imaginings are just further constituents of the plenum; they are not possibilities as much as they are images of things that may or may not exist. There does not appear to be room for *any* unactualized reality in Cavendish's system, but she does hold that for all bodies that do exist, there is a necessary connection between causes and effects. Whatever happens *has* to happen, she supposes, and there does not appear to exist the possibility that causes could ever have been different. She concedes that there might be things of which we cannot think or speak, and perhaps she would allow possible reality into the fold, but she would insist that since we cannot think of it, we have not posited "possible reality" in particular but just an unspecified kind of entity that might exist and that is beyond us.

Decay, death, and eternality

Cavendish holds that there is a constant amount of matter in the universe. This matter exists at every moment, even if the composites into which it enters are more temporary. There is a sense then in which death and decay are not quite the tragedy that individuals often take them to be. They are instead a matter of change, transformation, and growth:

> [W]hat is called a decay or death, is nothing else but a change or alteration of those Motions.[94]

> properly there is no such thing in Nature as death, but what is named death, is onely a change from the dissolution of some certain figure to the composition of another.[95]

There is a sense in which there is no such thing as death, Cavendish is arguing, because the smaller bodies out of which a composite is made are always active, perceptive, and alive. The destruction of a composite may be tragic for the composite itself, but in many cases its constituent bodies are just on the way to greener pastures:

> not that living animals have more natural life then those we call dead; for animals, when dissolved from their animal figure, although they have not animal life, yet they have life according to the nature of the figure into which they did change; but, because of their different perceptions; for a dead or dissolved animal, as it is of another kind of figure then a living animal, so it has also another kind of perception, which causes it to freeze sooner then a living animal doth.[96]

> the actions or motions of life alter in that which is named a dead Carcass, from what they were in that which is called a Living body; but although the actions of Life alter, yet life is not gone or annihilated; for life is life, and remains still the same, but the actions or motions of life change and differ in every figure…[97]

Cavendish might come across as fairly heartless in highlighting that the matter of a decaying composite never goes out of existence itself. We complain of the diseases and misfortunes that afflict us, and it is little consolation to be reminded that the bodies that compose us continue to survive, along with the bodies that succeed in bringing us down. Cavendish nowhere suggests that we just ignore our trials and tribulations, but she does suppose that something is lost in a perspective that fails to appreciate the orderly interactions that are depicted in a more complete representation of the plenum. There are diseases and mutations, for example, but these are in line with a larger harmony:

there cannot be a confusion amongst those parts of Nature, but there must be a constant union and harmony betwixt them; for cross and opposite actions make no confusion, but onely a variety; and such actions which are different, cross and opposite, not moving always after their usual and accustomed way, I name Irregular, for want of a better expression; but properly there is no such thing as Irregularity in Nature…[98]

There are diseases and mutations, but there are alternate descriptions of these that are more disinterested and do not carry all the negative connotations.

These alternate descriptions are also accurate, Cavendish thinks, and they help us to capture an order and elegance that we would otherwise miss. We describe something as a disease because it brings harm to an organism, for example, but we might focus instead on the behavior of the bodies that are challenging the organism and on their ambitious goal of separating and co-opting its parts. To be sure, that organism might be *us*, but we are not necessarily the point:

> Great *Nature* by *Variations* lives,
>
> For she no constant course to any gives.
>
> We find in *Change* she swiftly runs about,
>
> To keep her *Health,* and yet long *Life,* (no doubt.)
>
> And we are onely *Food* for *Nature Fine,*
>
> Our *Flesh her Meat,* our *Blood* is *her Strong Wine*….
>
> The *Sun's* her *Fire,* he serves her many waies,
>
> His *Lights her Looking-glasse,* and *Beauties praise.*
>
> The *Wind* her *Horses,* paces as she please,
>
> The *Clouds* her *Chariot* soft to sit in ease.
>
> The *Earth's* her *Ball,* by which *She* trundles round,
>
> In this slow *Exercise,* much *Good* hath found.[99]

if all the Parts of a World did assist each other, then Death could be no Unhappiness, especially in the Regular World; by reason all Creatures in that World, of what Kind or Sort soever, was Perfect and Regular: so that, though the particular Human Creatures did dissolve from being Humans; yet, their Parts could not be Unhappy, when they did unite into other Kinds, and Sorts, or particular Societies: for, those other sorts and kinds of Creatures, might be as happy as Human Creatures.[100]

We might focus on the accurate description of something as a disease, and focus on that description only, but the disease is going to impact us no matter how we think about it. Cavendish is suggesting that there are different angles that we can take on it that will instead highlight nature's variety and magic. We might identify something as a mutant, or we might focus instead on the sophisticated and orderly procedure by which its constituent bodies entered into a unique and interesting combination.

As we have seen, Cavendish holds that there is no disorder in nature and that all events unfold in a law-like manner. There is no irregularity in nature, and what we identify as "irregular" is just a reflection of our limited perspective and our parochial interests and concerns. She writes,

> I say Nature hath but One Law, which is a wise Law, *viz.* to keep Infinite matter in order, and to keep so much Peace, as not to disturb the Foundation of her Government: for though Natures actions are various, and so many times opposite, which would seem to make wars between several Parts, yet those active Parts, being united into one Infinite body, cannot break Natures general Peace; for that which Man names War, Sickness, Sleep, Death, and the like, are but various particular actions of the onely matter; not, as your *Author* imagines, in a confusion, like Bullets, or such like things juggled together in a mans Hat, but very orderly and methodical…[101]

Cavendish thinks that we tend to assess the behavior of bodies in terms of our own goals and interests and not the goals of the bodies themselves. We have a very incomplete picture of reality, and one that we would benefit from filling in:

> These motions and actions of Nature, since they are so infinitely various, when men chance to observe some of their variety, they call them by some proper name, to make a distinguishment, especially those motions which belong to the figure of their own kind; and therefore when they will express the motions of dissolution of their own figure, they call them Death; when they will express the motions of Production of their figure, they call them Conception and Generation; when they will express the motions proper for the Consistence, Continuance and Perfection of their Figure, they call them Health; but when they will express the motions contrary to these, they call them Sickness, Pain, Death, and the like: and hence comes also the difference between regular and irregular motions; for all those Motions that belong to the particular nature and consistence of any figure, they call regular, and those which are contrary to them, they call irregular.[102]

> Nature knows of nothing else but of corporeal figurative Motions, when as men make a thousand distinctions of one thing, and confound and entangle themselves so…[103]

> Matter, Figure, and Motions, are the gods that Create fortune; For fortune is nothing in it self but various motions gathered, or drawn to a point, which point man onely thinks it fixt upon him, but he is deceived, for it fixes upon all other things; for if any thing comes, and rubs off the bark of a tree, or breaks the tree, it is a miss-fortune to that tree, and if a house be built in such a place, as to shelter a tree from great storms, or cold weather, it were good fortune to that tree, and if a beast be hurt it is a miss-fortune to that beast, or bird, and when a beast, or bird, is brought up for pleasure, or delight, and not to work or be imprisoned, it is a good fortune to that beast, or bird…[104]

In these passages Cavendish is gesturing at her view that most of our ideas are dramatically incomplete. The universe is a plenum, but finite minds tend to be unaware of much of what is going on around them, and most of our representations are extremely parochial. We make distinctions, and carve things into kinds, on the basis of what we do and do not notice – on the basis of our own goals, and not the goals of the beings that surround us – and our pictures of reality are thereby truncated. One of the interesting questions that arises for Cavendish is how she can hold that the bodies of the plenum are all-knowing as a collection if they have confused and incomplete ideas as parts. Another interesting question that arises for Cavendish is whether or not she can hold that there are things that happen in the plenum that are *bad* – for example civil wars, or the behaviors and norms that restrict the roles and contributions of women. The next chapter will take up the first question and consider the resources that Cavendish has to address it. The second question will be treated in chapters six and seven.

Notes

1 *PL*, 453–454. See also *OEP*, 58.
2 She is also fallibilistic with respect to the conclusions that she draws in her theologically based arguments. For example, she allows that perhaps an omnipotent being *did* create nothingness, and that there exists vacuum after all (*PL*, 451).
3 *PL*, 451–452.
4 See also Descartes, *Principles of Philosophy* II.11, CSM1: 227–228.
5 *PL*, 67. See also *PL*, 94–95, 102–104. See also the similar view in Hobbes, *Elements of Philosophy: The First Section Concerning Body*, II.7.i-xiii, 91–101.
6 *PL*, 521. See also *PL*, 133–134: "in my opinion it is very probable there may be animal creatures of such rare bodies as are not subject to our exterior senses, as well, as there are elements which are not subject to all our exterior senses: as for example, fire is onely subject to our sight and feeling, and not to any other sense, water is

subject to our sight, taste, touch and hearing, but not to smelling; and earth is subject to our sight, taste, touch and smelling, but not to our hearing; and vapour is onely subject to our sight, and wind onely to our hearing; but pure air is not subject to any of our senses, but onely known by its effects: and so there may likewise be animal creatures which are not subject to any of our senses both for their purity and life; as for example, I have seen pumpt out of a water pump small worms which could hardly be discerned but by a bright Sun-light, for they were smaller then the smallest hair, some of a pure scarlet colour and some white, but though they were the smallest creatures that ever I did see, yet they were more agil and fuller of life, then many a creature of a bigger size, and so small they were, as I am confident, they were neither subject to tast, smell, touch nor hearing, but onely to sight, and that neither without dificulty, requiring both a sharp sight and a clear light to perceive them; and I do verily believe that these small animal creatures may be great in comparison to others which may be in nature."

7 *PL*, 418.

8 The issue of incomplete representations is very important in Cavendish's system and will be discussed more fully in chapter five.

9 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 23.

10 *PL*, 7.

11 "Of many Worlds in this World," *Poems and Fancies*, 44-45. See also "There is no vacuity," *PPO*, 4.

12 *OEP*, 4.

13 See also Clucas (1994), 262. See also *OEP*, 136–137. Cavendish writes, "Next, that it is impossible to have single parts in Nature, that is, parts which are individeable in themselves, as Atomes; and may subsist single, or by themselves, precised or separated from all other parts; for although there are perfect and whole figures in Nature, yet are they nothing else but parts of Nature, which consist of a composition of other parts, and their figures make them discernable from other parts or figures of Nature. For example: an Eye, although it be composed of parts, and has a whole and perfect figure, yet it is but a part of the Head, and could not subsist without it: Also the Head, although it has a whole and perfect figure, yet 'tis a part of the Body, and could not subsist without it."

14 This is just to repeat the passage cited above (*OEP*, 4). The view that nature is "intirely wise and knowing" will be discussed in chapter five.

15 Perhaps there are modalities that human beings lack and that would pick up on features of reality that we miss.

16 A similar worry applies in the case of Descartes. See *Principles* II.18, CSM1: 227–231.

17 See also O'Neill (2013), 316.

18 *GNP*, 217.

19 *PL*, 117. See also *GNP*, 231: "all Creatures in Nature are Assisted, and do Subsist, by each other." See also *GNP*, 36.

20 *PL*, 430. See also *PL*, 451, 455.

21 *OEP*, 137.

22 *OEP*, 138–139.

23 See for example the scholium to *Ethics* IP15, 226–227.

24 *OEP*, 40–41.

25 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 55–56.

26 "Of the several Properties of several Kinds and sorts of Creatures," *GNP*, 26.

27 *PL*, 243.

28 *GNP*, 19–20. See also *GNP*, 31: "all Natural Creatures are produced by the consent and agreement of many Self-moving Parts, or Corporeal Motions, which work to a

particular Design, as to associate into particular kinds and sorts of Creatures." See also *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 63: "there are many numerous and different sorts of motions in one composed figure, and yet none is obstructive to the other, but each knows its own work, and they act all unanimously to the conservation of the whole figure…"

29 *PL*, 184.

30 *GNP*, 40.

31 Note that Spinoza also defines individuals as collections of (inherently divisible) bodies that combine and work together to maintain a fixed quantity of motion. (See for example *Ethics* Part II, lemmas 5–7.) Spinoza does not need to demonstrate his definitions of course, but Cavendish might have just put her view in terms of lemmas or definitions also.

32 *PPO*, 5. Cavendish continues, "*motion* and *Figure,* being subject to *Change,* strive for *Superiority*…" (Ibid.).

33 *PL*, 536.

34 *GNP*, 44–45.

35 *PL*, 357.

36 *PPO*, 39–40. See also *PPO*, 20: "for that we call *Animal,* is such a temper'd *matter,* joyn'd in such a *figure,* moving with such kinde of *motions;* but when those *motions* do generally alter, that are proper to an *Animal,* although the *matter,* and Figure remain, yet it is no longer an *Animal,* because those motions that help it to make an *Animal* are ceas'd…"

37 *PPO*, 220.

38 This is a controversial interpretation of Cavendish, given that many commentators hold that she subscribes to an incompatibilist view of freedom for human and other agents. Cavendish's views on freedom and agency will be discussed in detail in chapter six.

39 See Descartes, *Passions of the Soul* II.145, CSM1: 379–390; Spinoza, *Ethics* Iax3, 218; Malebranche, *The Search After Truth*, VI.ii.3, 450.

40 *GNP*, 16. See also *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 25, where Cavendish says that "Nature is full of reason as well as of sense, and wheresoever is reason, there can be no chance."

41 *NP*, 550.

42 *GNP*, 15.

43 *PPO*, 86–87.

44 A question to consider at this point – or really to revisit from the discussion in chapter one – is how we acquire an idea of (something relatively abstract like) necessity, according to Cavendish, and how we are able to represent necessity in thought. Cavendish herself does not take up the question directly; instead, she refers us to ideas that are often taken to be abstract – for example ideas of geometrical figures – and she argues that in fact they are imagistic. She appears to suppose that any putative "abstract" ideas can be given such an analysis. Given the frequent overlap between the thinking of Cavendish and Hume, it is tempting to conclude that Cavendish would argue that our idea of necessity is a very elaborate composite idea that includes as a core component an idea of a feeling. Perhaps this would be a feeling of compulsion or compellingness that occurs in (for example) our mathematical reasoning, reflecting how our minds in fact are compelled to reason, and not any mind-independent fact about how reasoning ought to unfold. Unfortunately, Cavendish leaves it to us to speculate as to her view here. Another possibility of course is that she is committed to saying that there are ideas that we have but that her theory of ideas cannot explain or handle.

45 *PL*, 439.

46 *OEP*, 101.
47 *WO*, 175. See also Chalmers (2003), 137–138.
48 Some commentators have argued that for Cavendish disorder is not just relative to our epistemic position. See for example Detlefsen (2007), 174–177. Part of Detlefsen's motivation is to leave room for Cavendish to hold that finite creatures have libertarian freedom (180–187).
49 See also Walters (2014), 83–87, 178–180; Sarasohn (2010), 104–105; and Webster (2011), 717–719.
50 *PL*, 359–360. See also Leibniz, *Discourse on Metaphysics*, section seven.
51 *PL*, 238.
52 *PPO*, 29. Cavendish also speaks of the way in which our ideas, decisions, and other components of our mental life are due in part to bodies that surround us but that we do not notice. She writes, "it seemes to me as if there were severall invisible spirits, that have severall, but visible powers, to worke in severall Ages upon the mindes of men. For in many Ages men will be affected, and dis-affected alike: as in some Ages so strongly, and superstitiously devout, that they make many gods: and in another Age so Atheisticall, as they beleeve in no God at all, and live to those Principles. Some Ages againe have such strong faiths, that they will not only dye in their severall Opinions, but they will Massacre, and cut one anothers throats, because their opinions are different. In some Ages all men seek absolute power, and every man would be Emperour of the World; which makes Civil Wars: for their ambition makes them restlesse, and their restlesnesse makes them seek change. Then in another Age all live peaceable, and so obedient, that the very Governours rule with obedient power…" (*Poems and Fancies*, "To All Writing Ladies," unnumbered). See also Spinoza, *Ethics* Part I, "Appendix," 238–243.
53 Some commentators acknowledge the passages in which Cavendish says that an effect has to occur given its prior causes, but conclude that Cavendish still subscribes to a libertarian conception of freedom. See for example Sarasohn (2010), 90–93; and Siegfried (2004), 20. Siegfried argues that in spite of these passages, Cavendish is clear in numerous other passages that there "is self-motion in nature," and so is not any kind of determinist (22).
54 *PL*, 155. See also *PL*, 126: "not any part in nature hath an absolute power…" See also *OEP*, 6: "neither can natural causes nor effects be over-powred by man so, as if man was a degree above Nature, but they must be as Nature is pleased to order them; for Man is but a small part, and his powers are but particular actions of Nature, and therefore he cannot have a supreme and absolute power." See also *GNP*, 189: "So Fire, in some Fuels, doth destroy it self, and occasions the Fuel to be more consumed; when as, in other sorts of Fuel, Fire encreases extreamly. But Fire, as all other Creatures, cannot subsist single of it self, but must have Food and Respiration; which proves, Fire is not an Immaterial Motion. Also, Fire hath Enemies, as well as Friends; and some are deadly, namely, Water, or Watry Liquors. Also, Fire is forced to comply with the Figurative Motions of those Creatures it is joyned to: for, all Fuels will not burn, or alter, alike." See also *PL*, 442–443.
55 *PL*, 356–357.
56 *PPO*, 74–75. See also *PPO*, 104–105: "MOtion doth not onely divide matter infinite, but disturb matter infinite; for self-motion striving and strugling with self-motion, puts it self to pain; and of all kinde of motions the animal motions disturbs most, being most busie, as making wars and divisions, not onely animal figures, against animal figures, but each figure in itself, by discontents and dislike; which discontent makes more pain, then ease, or pleasure, or tranquillity, by

reason of irregularity; but motion is an infinite and eternal tyrant, on infinite figures; for as motion makes figures, so motion dissolves figures, which makes infinite, and eternal matter, eternal restless; for the extract of infinite matter, which is an innated matter, which innate matter is motion, and makes the dull part of matter so too, by working thereon; thus the onely and infinite matter is a tyrant to its self, or rather, I may say, infinite, is a tyrant to motion, and motion to figure, and eternity to all."

57 *PL*, 409. See also *PL*, 280–281: "there is a Perpetual war and discord amongst the parts of Nature, although not in the nature and substance of Infinite Matter, which is of a simple kind, and knows no contraries in it self, but lives in Peace, when as the several actions are opposing and crossing each other; and truly, I do not believe, that there is any part or Creature of Nature, that hath not met with opposers, let it be never so small or great. But as War is made by the division of Natures parts, and variety of natural actions, so Peace is caused by the unity and simplicity of the nature and essence of onely Matter, which Nature is peaceable, being always one and the same, and having nothing in it self to be crossed or opposed by; when as the actions of Nature, or natural Matter, are continually striving against each other, as being various and different."

58 *OEP*, "An Argumental Discourse," unnumbered. See also *OEP*, "Further Observations upon Experimental Philosophy," 65–66: "because she [nature] is selfmoving, and full of variety of figures, this variety cannot be produced without variety of actions, no not without opposition."

59 *GNP*, 105.

60 *PL*, 96.

61 *PL*, 539. See also PL, 442.

62 *PL*, 436. See also *GNP*, 120–121: "But some may say, *A Man in a Swound is void of all Motion*. I answer: That cannot be: for, if the Man was really dead, yet his Parts are moving, though they move not according to the property or nature of a living Man: but, if the Body had not consistent Motions, and the Parts did not hold together, it would be dissolved in a moment…"

63 *PPO*, 31. See also *PL*, 54: "the motion doth not go out of the hand into the pen, and that the motion of the pen, is the pens own motion; but I deny, that after holding the hand a little while still, and beginning to write again, a new motion of the pen is generated…" See also *PL*, 100: "A Watch-maker doth not give the watch its motion, but he is onely the occasion, that the watch moves after that manner, for the motion of the watch is the watches own motion, inherent in those parts ever since that matter was, and if the watch ceases to move after such a manner or way, that manner or way of motion is never the less in those parts of matter, the watch is made of…"

64 *PPO*, 32.

65 Siegfried (2014), 68, argues that Cavendish holds that when a body is dominated or overwhelmed, it willingly moves as it does, and by its own internal motions. Siegfried is certainly right with respect to the latter – and that for Cavendish motion is never transferred without substance – but Cavendish holds that sometimes the direction of motion of a body is contrary to the goals and preferences of the body, as in cases of domination.

66 *PL*, 116–117.

67 *PL*, 447. See also *PL*, 308: "if a thing has no motion in it self, but is moved by another which has self-motion, then it must give that immovable body motion of its own, or else it could not move, having no motion at all; for it must move by the power of motion, which is certain; and then it must move either by its own motion, or by a communicated or imparted motion; if by a communicated

motion, then the self-moveable thing or body must transfer its own motion into the immoveable, and lose so much of its own motion as it gives away, which is impossible, as I have declared heretofore at large, unless it do also transfer its moving parts together with it, for motion cannot be transferred without substance. But experience and observation witnesseth the contrary." See also *PL*, 116–117; *PL*, 444–445, *OEP*, 160; and *OEP*, "Further Observations Upon Experimental Philosophy," 69.

68 *PL*, 445.

69 *PPO*, 48. See also *GNP*, 37.

70 *PL*, 420–421. See also *PL*, 428.

71 *PL*, 421. See also *GNP*, 33: "ALL Creatures are Produced, and Producers; and all these Productions partake more or less of the Producers; and are necessitated so to do, because there cannot be any thing New in Nature…"

72 *PPO*, 1.

73 *PL*, 457–459. In this passage Cavendish is referring to the views of Gideon Harvey. A similar passage is in *OEP*, "Further Observations Upon Experimental Philosophy," 44: "as for the Eternity of Nature, it is more probable to Regular Reason, then that Nature should have any beginning; for all beginning supposes time, but in God is no time, and therefore neither beginning nor ending, neither in himself, nor in his actions; for if God be from all Eternity, his actions are so too, the chief of which is the production or creation of Nature. Thus natural reason may conceive that Nature is the Eternal servant of God; but how it was produced from all Eternity, no particular or finite creature is able to imagine."

74 *PL*, 53. See also James (1999), 24.

75 *PL*, 431.

76 *PPO*, 37.

77 *PL*, 55.

78 *OEP*, 47.

79 *PL*, 280. See also *PL*, 460: "there is no such thing as a beginning and ending in Nature, neither in the whole, nor in the parts, by reason there is no new creation or production of Creatures out of new Matter, nor any total destruction or annihilation of any part in Nature, but onely a change, alteration and transmigration of one figure into another; which change and alteration proves rather the contrary, to wit, that Matter is Eternal and Incorruptible; for if particular figures change, they must of necessity change in the Infinite Matter, which it self, and in its nature, is not subject to any change or alteration: besides, though particulars have a finite and limited figure, and do change, yet their species do not; for Mankind never changes, nor ceases to be, though *Peter* and *Paul* die, or rather their figures dissolve and divide; for to die is nothing else, but that the parts of that figure divide and unite into some other figures by the change of motion in those parts."

80 *PL*, 526.

81 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 23.

82 *PL*, 526–527.

83 *PL*, 462. See also *PL*, 141–142: "The Holy Writ doth not mention Matter to be created, but onely Particular Creatures, as this Visible World, with all its Parts, as the history or description of the Creation of the World in *Genesis* plainly shews; For *God said, Let it be Light, and there was Light; Let there be a Firmament in the midst of the Waters, and let it divide the Waters from the Waters; and Let the Waters under the Heaven be gathered together unto one place, and let the dry Land appear; and let the Earth bring forth Grass, the Herb yielding Seed, and the Fruit-tree yielding Fruit after his kind; and let there be Lights in the Firmament of*

the Heaven, to divide the Day from the Night, &c. Which proves, that all creatures and figures were made and produced out of that rude and desolate heap or chaos which the Scripture mentions, which is nothing else but matter, by the powerful Word and Command of God, executed by his Eternal Servant, Nature…"

84 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 26. See also *OEP*, "Further Observations Upon Experimental Philosophy," 77: "Nor am I of the opinion of our Divine Philosophers, who mince Philosophy and Divinity, Faith and Reason, together; and count it Irreligious, if not Blasphemy, to assert any other principles of Nature, then what they (I will not say, by head and shoulders) draw out of the Scripture, especially out of *Genesis,* to evince the finiteness, and beginning of Nature; when as Moses doth onely describe the Creation of this World, and not of Infinite Nature: But as Pure natural Philosophers do not meddle with Divinity, or things Supernatural, so Divines ought not to intrench upon Natural Philosophy." See also Sarasohn (2014), 102; and James (1999), 230.

85 *OEP*, "Further Observations Upon Experimental Philosophy," 38.

86 This view also appears to be in Spinoza, and for similar reasons. See for example *Short Treatise on God, Man and His Well-Being,* ch. II, 40.

87 *OEP*, 135–136.

88 *OEP*, 144. See also "The Infinites of Matter," *Poems and Fancies*, 30. Cavendish does hold, however, that we are nowhere close to knowing how far the universe extends. See *PL*, 461.

89 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 18.

90 *GNP*, 31.

91 See for example *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 17; *PL*, 203; and *GNP*, 16.

92 But some recent scholarship has contended that Spinoza is not in fact a necessitarian. See for example Curley and Walski (1999).

93 These imaginings will be the focus of the discussions in chapters five and seven.

94 *PL*, 61. See also *PL*, 381–382.

95 *OEP*, "Further Observations upon Experimental Philosophy," 53. See also Ibid., 9: "although Infinite Matter in it self and its own essence is simple and homogeneous, as the learned call it, or of the same kind and nature, and consequently is at peace with it self, yet there is a perpetual opposition and war between the parts of nature, where one sometimes gets the better of the other, and overpowers it either by force or slight, and is the occasion of its dissolution into some other figure; but there's no part so powerful as to reduce any thing into nothing, or to destroy it totally from being Matter…"

96 *OEP*, 112. See also *PL*, 411: "[the] consistence of his figure do now work to the dissolution of his figure, and to the production of some other figures, changing and transforming every part thereof; but though the figure of that dead animal is dissolved, yet the parts of that dissolved figure remain still in Nature although they be infinitely changed, and will do so eternally, as long as Nature lasts by the Will of God; for nothing can be lost or annihilated in Nature."

97 *PL*, 310. See also *PL*, 350: "For death, and dead things, in my opinion, are the most active producers, at least they produce more numerously and variously then those we name living things; for example, a dead Horse will produce more several Animals, besides other Creatures, then a living Horse can do; but what *Archeus* and *Ideas* a dead Carcass hath, I can tell no more, then what *Blas* or *Gas* it hath; onely this I say, that it has animate Matter, which is the onely *Archeus* or Master-workman, that produces all things, creates all things, dissolves all things,

and transforms all things in Nature; but not out of Nothing, or into Nothing, as to create new Creatures which were not before in Nature, or to annihilate Creatures, and to reduce them to nothing; but it creates and transforms out of, and in the same Matter which has been from all Eternity." See also *PPO*, 48 – "it is not an absence of life when the figure dissolves, but an alteration of life, that is, the matter ceaseth not from moving, for every part hath life in it, be the parts never so small, or disperst amongst other parts, and if life, there must be consequently sense, if sense, knowledge, then there can be no death, if every part hath life in it, so that which we call death, is onely an alteration of such motions, in such a figure, in onely matter." See also *PL*, 306.

98 *PL*, 538–539.

99 "Natures *Exercise*, and *Pastime*," *Poems and Fancies*, 139.

100 *GNP*, 270. Here Cavendish's view of the intelligence and mentality of bodies is coming full into view. Bodies have aims and goals, and they behave in orderly ways that do not always reflect the hopes and expectations of human minds. See also *GNP*, 19–20.

101 *PL*, 146.

102 *PL*, 332. See also *PL*, 346.

103 *PL*, 331.

104 *PPO*, 29.

5

UBIQUITOUS KNOWLEDGE

Cavendish takes intelligence and thinking to be pervasive features of the plenum. They are present in the organization of the bodies that compose imagistic pictures in human minds, and in the order and organization that are exhibited in the natural world more generally. This chapter is an exploration of the thesis in Cavendish that the plenum is a single individual that collectively speaking is "intirely wise and knowing." For Cavendish, much of the confusion and inaccuracy in ideas is only apparent. Contiguous bodies have ideas of their own states and the states of the bodies that are local to them, forming a stretch of ideas that constitutes a more or less complete representation.[1] Some of these ideas are unconscious and hence go unnoticed, and indeed many of the ideas that we do notice – if we subtract the unconscious content that lies in between and around them – are fictional. There is also confusion that is not merely apparent. Like all bodies, ideas are divisible and are often divided: representations come apart, and they no longer picture anything that actually exists. What results, Cavendish argues, is a universe that has ideas of most of its states but that in addition has ideas that fail to picture actual existents. The plenum exhibits intelligence and knowledge in its every last crevice, she thinks, but the conclusion that the ideas of the universe amount to a complete and accurate snapshot of all of its ingredients is cleaner than patient observation and maxims of reason will allow.

The mind of nature

Cavendish has argued that there is no vacuum and that the bodies that we identify in nature are like organs or components of a larger single whole. The ideas that are had by these components are then the ideas of a larger individual mind:

> you ask whether Nature hath Infinite souls? I answer: That Infinite Nature is but one Infinite body, divided into Infinite parts, which we call Creatures; and therefore it may as well be said, That Nature is composed of Infinite Creatures or Parts, as she is divided into Infinite

> Creatures or Parts; for Nature being Material, is dividable, and composable. The same may be said of Nature's Soul, which is the Rational part of the onely infinite Matter, as also of Nature's Life, which is the sensitive part of the onely Infinite self-moving Matter…, for Infinite Material Nature hath an Infinite Material Soul, Life, and Body.[2]

Here Cavendish is thinking along the lines of Descartes in the Second Meditation, and Spinoza in *Ethics* Ip5. The general idea is that, in a substance-mode ontology, a plenum contains nothing that could serve as an internal boundary or border to divide the plenum in two. For example, Descartes argues in the Second Meditation that modes do not have the wherewithal to individuate substances: all of the modes of a substance could be altered to the point where the substance no longer has any of the modes that it had at first, but it still would be the same single substance (that had simply changed over time).[3] Spinoza argues similarly: any individual substance (for example a mind) could have modes added to it (for example ideas), but these additional modes would never serve as a boundary that separated the substance into two; they would just be further modes (in this case ideas) of the substance we had started with.[4] Spinoza would add (in agreement with Cavendish) that what it is for something to be finite is for it to be bound or limited by a thing of the same kind: for any stretch of finite mental substance, there is further mental substance that surrounds it, and again modes do not serve as boundaries.[5] For Cavendish, the intelligent material universe is a single individual, and its ideas constitute a single mind.

Cavendish says that one of the reasons that she concludes that the plenum is all-knowing is that each of its parts has knowledge of its own situation, and these parts add up to the whole. She writes,

> I Was of an opinion, That Nature, because Infinite, could not know her Self; because Infinite hath no limit. Also, That Nature could not have an Absolute Power over her own Parts, because she had Infinite Parts; and, that the Infiniteness did hinder the Absoluteness: But since I have consider'd, That the Infinite Parts must of necessity be Self-knowing; and that those Infinite Self-knowing Parts are united in one Infinite Body, by which Nature must have both an United Knowledg, and an United Power.[6]
>
> Nature is divided into infinite several parts, so each several part has a several and particular knowledg and perception, both sensitive and rational, and again that each part is ignorant of the others knowledg and perception; when as otherwise, considered altogether and in general, as they make up but one infinite body of Nature, so they make also but one infinite general knowledg.[7]

Cavendish does not articulate here why she holds that each of the regions of the universe is self-knowing. As we have seen, one of the reasons is that bodies communicate with each other in bringing about the order that is exhibited in nature and in striving to achieve their purposes and goals. Bodies would need to have information about their own states in order to communicate it, and they would be in possession of information about proximate bodies as well. No finite individual acquires all such information, but ideas (conscious and unconscious) are spread throughout the plenum, and the plenum is an individual itself:

> there's nothing which is not subject, or has a participation of this Universal sense in Nature, as well as of Reason. 'Tis true, particular senses cannot perceive the infinite figurative motions of Nature, neither can the subtilest sense have a perception of the interior, innate, figurative motions of any other Creature; but I do not speak of particular senses, but of that infinite sense and reason, which is self-moving Matter, and produces all the effects of Nature.[8]

No individual has a complete representation of the plenum, but if all of the ideas of the plenum are considered as a whole – especially the many ideas that we do not notice – the plenum has a "perfect knowledg of all things in Nature." She writes,

> unless all the Parts of Infinite Matter were joyned into one Creature, there can never be in one particular Creature a perfect knowledg of all things in Nature. Wherefore I shall never aspire to any such knowledg, but be content with that little particular knowledg, Nature has been pleased to give me…[9]

If all regions of the plenum were combined into a single individual, it would be all-knowing, but if Cavendish is right, all of the parts of infinite matter *are* joined into one creature. They are joined into the organized and contiguous individual that is the plenum.

Cavendish holds that the plenum has self-knowledge and is entirely wise and knowing. Because each contiguous region has ideas of its own (local) states, Cavendish reasons, the ideas of the plenum add up to a whole that is a snapshot of the plenum itself. A problem of course is that regions of the plenum would appear to contain ideas that are very incomplete pictures, and even ideas that are confused and misrepresentative. Cavendish owes us an account of how there can be ideas that do not completely represent their objects, and she owes us an account of how ideas can misrepresent their objects. As we will see, she does have the resources to make sense of incomplete ideas; however, her account of confused ideas will put a strain on her view that the plenum has perfect knowledge of all of its states.

Incomplete ideas

Cavendish can account for apparently incomplete ideas by arguing that all ideas are complete representations of their objects, but that the pictorial content in ideas sometimes goes unnoticed. An idea of a unicorn might have as its explicit content a picture of a horse and a horn, for example, but there might be a lot of pictorial content between the picture of the horse and horn, where the collective content depicts something actual. The larger idea might depict a specific person's actual history of having observed a horse and a horn separately, and the history of the two ideas being associated in thought. If we do not notice all of the content that lies between the picture of the horse and the picture of the horn, we might regard the two pictures as contiguous, and as being an idea of a non-existent object. Cavendish argues, however, that much of the thinking that takes place in human beings and in nature is below the threshold of awareness. Her view of the apparent gaps in the plenum sheds light on how she would understand the unnoticed elements of our ideas:

> IT is said, that *Drake* and *Cavendish* went round the World, and others, because they set out of one place, and went till they came to the same place again, without turning: But yet, in my conceit, it doth not prove they went round the whole World; for suppose there should be round Circle of a large Extent, and within this Circle many other Circles, and likewise without, so that if one of these inward or outward Circles be compass'd, shall we say it was the Circumference Circle, when it may be it was the Center Circle? But it may easily deceive the Understanding, since we can truly judge but according to what we sind, and not to what we know not. But surely the World is bigger than Mens Compass, of Embracing; and Man may make a Globe of what he knows, but he cannot make a Globe of what he knows not; so that the World may be bigger than Man can make Globes, for any thing he knoweth perfectly. This Globe Man makes for the whole World, is but an inward Circle; and that there may be many of them which we do not know, because not found out as yet, although Ships are good Scouts to bring Intelligence.[10]

For Cavendish, what we take to be a world or domain or region is more filled in than we tend to report. There are bodies in-between the bodies that we notice, and our explicit pictures of reality are dramatically incomplete. But Cavendish holds that many of the elements of our *thinking* go unnoticed as well. In the same way that a neighborhood has more than houses and roads and fences – there is also the plenum of bodies that lie in between these but that we do not consciously notice – our idea of a neighborhood has more to it than the elements that we consciously notice. We might notice the part of our idea that is a picture of houses and roads and fences, but that does not mean

that that is all of the pictorial content that is present: there are bodies in-between the houses and roads and fences, and there are bodies between our ideas of houses and roads and fences. In addition, the fence that separates the yards of two neighbors is just as much a border or boundary as a fence that separates the front and back yard of a single lot. If so, the ideas in an individual mind do not have firm borders, and the ideas in different minds do not have firm borders. Cavendish might then argue that all of the ideas that constitute finite minds add up to a single mind that has a complete and accurate representation of the plenum.

An easy way for Cavendish to make sense of the apparently incomplete ideas that still amount to a complete representation of the plenum is to say that ideas are not incomplete and that much of their content just goes unnoticed. A very similar view is in Spinoza, and the suggestion here is that Cavendish (like Spinoza) is appealing to Cartesian principles to generate conclusions that Descartes himself wanted to avoid. Spinoza argues that although we might seem to have ideas of non-existent objects, these ideas are merely apparent.[11] Spinoza *has* to say this, if he holds that all of the ideas in finite minds coincide with and are identical to ideas in the mind of God, and if he holds that God's ideas are adequate and true.[12] An example that he considers to make his point is an idea of a circle that (allegedly) contains just a single chord – that is, an idea of an entity that does not actually exist. In a material universe that is a plenum, a true idea of a circle would be an idea of a being that is completely filled in, even if we do not notice the entirety of its content.[13] Unless Spinoza is contradicting his view that ideas in God's mind are complete and accurate representations of reality, he holds that the idea of a circle contains more chords than just the one, and we simply fail to notice these.[14]

Nature vs. artifice

Cavendish has systematic reasons for holding that veridical ideas are pervasive throughout the plenum. Bodies exhibit order without exception, and the only way that they could exhibit order is if they perceived the behavior of the bodies that surround them so as to coordinate their respective behaviors accordingly. There is no irregularity or disorder in nature, she thinks, but bodies also work to secure aims and goals. There is apparent teleology in nature, and no reason to explain it away. One of the ways that Cavendish motivates the view that wisdom and knowledge are ubiquitous in nature is by argument. Another is by showcasing examples of widespread non-human activity that is so sophisticated that it has to be guided by intelligence and knowledge. She points in particular to the difference between human art, on the one hand, and what we might call the artifacts of nature. If we suppose that human activity is intelligent and skillful, Cavendish seems to be thinking, we have to admit that the behavior of non-human bodies is sometimes more intelligent

and skillful. The plenum is "intirely wise and all-knowing" if such behavior is sufficiently pervasive, and Cavendish supposes that it is pervasive indeed.

Cavendish holds that non-human bodies engage in behaviors that are sophisticated and impressive. These behaviors are guided by wisdom and knowledge, she thinks, and they are ubiquitous throughout the plenum. She places particular emphasis on the pronounced distinction between the productive capacities of non-human bodies, and the productive capacities of human artifice. She recognizes that human artifacts are sometimes impressive, but she thinks that in many instances they pale in comparison to the creative productions of non-human bodies. When human beings take bodies and combine them into configurations that are noteworthy, she has argued, a prior condition of our success is that those bodies be in possession of capacities that are noteworthy themselves. Careful study reveals that non-human bodies tend to be subtle and sophisticated, and in many cases they outdo us:

> though natural Life doth produce Art, yet Art cannot produce natural Life, for though Art is the action of Life, yet it is not Life it self…[15]
>
> Natural actions are not like Artificial; for Art is but gross and dull in comparison to Nature…[16]
>
> We can Disturb great Nature's work at will;
> But to Restore and Make, is past our skill.[17]

Cavendish supposes that the bodies that constitute the bulk of the plenum, and that we often take to be inferior to ourselves, are remarkable. They do things that we cannot, and in the process they perceive and detect things that we do not: for example, the details of the bodies with which they are contiguous and with which they coordinate their respective behaviors. Non-human bodies have a long track record of collaboration and mutual understanding, and a long track record of experience and know-how. We are different:

> I Have heard that Artists do glory much in their Glasses, Tubes, Engines, and Stills, and hope by their Glasses and Tubes to see invisible things, and by their Engines to produce incredible effects, and by their Stills, Fire, and Furnaces, to create as Nature doth; but all this is impossible to be done: For Art cannot arrive to that degree, as to know perfectly Natures secret and fundamental actions, her purest matter, and subtilest motions; and it is enough if Artists can but produce such things as are for mans conveniencies and use, although they never can see the smallest or rarest bodies, nor great and vast bodies at a great distance, nor make or create a Vegetable, Animal, or the like, as Nature doth…[18]

One of Cavendish's aims in highlighting the subtlety and sophistication of non-human bodies is to guide us toward the production of artifacts that serve our "conveniences and use." She does this by reminding us of the benefits of building on the productions that nature has already assembled. One of the most efficient ways that we can construct the various composites that will serve our needs is by piggybacking on the knowledge and skill of non-human bodies. We do not need to reinvent the wheel, so to speak; we can build on work that more elemental bodies perform on a daily basis.[19]

Non-human bodies are able to do a number of impressive things, Cavendish thinks, in part because of the knowledge that they have amassed. There is no body – human or otherwise – that can detect all of the complicated variables at play in a given interaction, but non-human individuals perceive much that we do not:

> But some may say, If the particular parts of one composed figure be so ignorant of each others knowledg, as I have expressed, How can they agree in some action of the whole figure, where they must all be imployed, and work agreeably to one effect? …[I]t is well to be observed, that there being an entercourse and commerce, as also an acquaintance and agreement between parts and parts, there must also of necessity be some knowledg or perception betwixt them, that is, one part must be able to perceive another part, and the actions of that same part; for wheresoever is life and knowledg, that is, sense and reason, there is also perception; and though no part of Nature can have an absolute knowledg, yet it is neither absolutely ignorant, but it has a particular knowledg, and particular perceptions, according to the nature of its own innate and interior figure.[20]

The ideas of each small region of the plenum track the small amount of information that is pertinent to it. That is in part how they are able to behave so intricately. Every region has information about the bodies immediately surrounding it, and ideas of its own states as well:

> self-moving matter can but know it self; and as Matter is the ground or constitutive Principle of all the parts and figures in Nature (for without matter there could be no parts, and so no division) and selfmotion is the ground or principle of all particular actions, so is self-knowledg the ground of all particular knowledges and perceptions. Again: as one part cannot be another part, so neither can one parts knowledg be another parts knowledg; although they may have perceptions of each other…[21]

Cavendish does not offer an explicit reason for the view that each region of the plenum has self-knowledge, but two reasons are fairly straightforward in

the context of her larger system. One is that each region would have to have self-knowledge in order to inform surrounding bodies of what it is doing. Another is that each region would require knowledge to maintain order and organization in its own sphere.

Non-human bodies have enormous amounts of knowledge that we do not, Cavendish supposes; they have imagistic ideas that accurately reflect their local situation. She speaks at length of the wonders of bees, spiders, and ants, for example, and the skillful behavior of the bodies that compose the immune system. Non-human bodies constitute the bulk of the plenum, she would say, and the plenum is more or less all-knowing. There is natural magic, she adds, or if the distinction between magic and non-magic is merely epistemic – and a function of the patterns that we notice, and our expectations – we should celebrate instead that nature is skillful and magestic:

> I believe natural Magick to be natural corporeal motions in natural bodies: Not that I say, Nature in her self is a Magicianess, but it may be called natural Magick or Witchcraft, meerly in respect to our Ignorance; for though Nature is old, yet she is not a Witch, but a grave, wise, methodical Matron, ordering her Infinite family, which are her several parts, with ease and facility, without needless troubles and difficulties; for these are onely made through the ignorance of her several parts or particular Creatures, not understanding their Mistress, Nature, and her actions and government, for which they cannot be blamed…[22]

Cavendish supposes that our sense of the wonder and capacity of non-human bodies is heavily abbreviated if we fail to recognize the extraordinary things that they do on their own. We might point to additional examples from today: we assemble a playground, or perhaps a cabinet from IKEA, and we proclaim that we did it all ourselves. Cavendish seeks to highlight that there are numerous causes of any such effect and that human artifice is not particularly central:

> Some endeavour to prove, by their Artificial Experiments, that they have and can produce such things out of natural bodies, which never were pre-existent in them; as for example, Glass out of Vegetables, without any addition of forreign parts onely, by the help of fire. To which I answer: That, in my opinion, the same Glass was as much pre-existent in the matter of those Vegetables, and the Fire, and in the power of their corporeal figurative motions, as any other figure whatsoever; otherwise it would never have been produced; nay, not onely Glass, but millions of other figures might be obtained from those parts, they being subject to infinite changes; for the actions of self-moving Matter are so infinitely various, that according to the

> mixture, or composition and division of parts, they can produce what figures they please; not by a new Creation, but only a change or alteration of their own parts; and though some parts act not to the production of such or such figures; yet we cannot say, that those figures are not in Nature, or in the power of corporeal, figurative selfmotion; we might say, as well, that a man cannot go, when he sits; or has no motion, when he sleeps; as believe, that it is not in the power of Nature to produce such or such effects or actions, when they are not actually produced…[23]

If Cavendish is right, there are many things that non-human bodies can do that are simply beyond us. Non-human bodies can do things that we cannot, in part because they know and perceive much that we do not even notice. Their knowledge, Cavendish thinks, is pervasive.

Nature is not unimpressive and dead, Cavendish supposes, but active and perceptive. Accordingly, it is to be respected and adored.[24] A seventeenth-century scientist and philosopher who did *not* hold that nature is wise and all-knowing is Francis Bacon. He held instead that bodies are beneath us, and that human beings should lord over nature and bring it into submission. In *Novum Organum*, he argued that the new tools of the scientific revolution would finally allow us to reign over the natural world and force it into conformity with our will.[25] With the help of telescopes and other instruments, we would be able to take inventory of all the patterns that nature exhibits, and then extract from bodies all that they are able to give. Bacon indeed encourages a division between the human being as subject and nature as object. Cavendish holds that such a division is fictional, and also counterproductive.[26] She also disagrees with Bacon about the power of instruments to deliver us information. She holds that because they are human-made artifacts, we cannot expect them to be very sophisticated; and as we saw in chapter one, she supposes that in many cases they are largely deceptive.[27] Her insistence on the relative sophistication of the productive capacities of non-human bodies might seem to be very extreme in this case, but there are a few things that she would say in her defense.

As we have seen, one of Cavendish's reasons for thinking that human-made instruments tend to be obfuscatory is that she takes unassisted sensory perceptions to be trustworthy and reliable, but perceptions of bodies via instruments are often very different from these. All of these perceptions cannot be right, she seems to be assuming, and she will put her trust in instruments that have been created by non-human bodies instead. What is puzzling is that she does not allow that both kinds of instrument might be getting at the truth about objects, just at different levels of analysis.

A second reason that Cavendish has for thinking that human-made instruments tend to be obfuscatory falls out of her doctrine of patterning. When we perceive an object through our senses, Cavendish thinks, the object presents

an image of itself to our sense organ, which forms a copy of the object. When we use an instrument, however, there is an additional image or pattern with which our sense organ has to contend: there is the pattern of the instrument itself, which prevents a clear and unimpeded grasp of the image of the body to be perceived. If we use a telescope, for example, the glass of the telescope presents a pattern to the eye, but the pattern runs together an image of the distant object and an image of the glass itself. In the case of certain kinds of mirror, for example, obfuscation is undeniable.[28] But Cavendish holds that instruments obscure our view in general:

> For example; a Lowse by the help of a Magnifying-glass, appears like a Lobster, where the Microscope enlarging and magnifying each part of it, makes them bigger and rounder then naturally they are. The truth is, the more the figure by Art is magnified, the more it appears mis-shapen from the natural, in so much as each joynt will appear as a diseased, swell'd and tumid body, ready and ripe for incision. But mistake me not; I do not say, that no Glass presents the true picture of an object; but onely that Magnifying, Multiplying, and the like optick Glasses, may, and do oftentimes present falsly the picture of an exterior object; I say, the Picture, because it is not the real body of the object which the Glass presents, but the Glass onely figures or patterns out the picture presented in and by the Glass, and there may easily mistakes be committed in taking Copies from Copies…[29]
>
> neither is any Art able to assist our sight with such optick instruments as may give us a true information thereof; for what a perfect natural eye cannot perceive, surely no glass will be able to present.[30]
>
> Art is not onely intricate and obscure, but a false informer, and rather blinds then informs any particular Creature of the Truth of Nature.[31]

According to Cavendish, what it is for us to have a sensory perception of an object is for our sense organ to pattern a copy of the object. If our senses are perceiving not just the object, but also the instrument that lies in-between us and it, our sense organs pattern more than just a copy of the object. An image of the instrument would be patterned as well, or at least an image of the object as patterned *by* the instrument. There would be the potential for obfuscation, and Cavendish takes instances of actual obfuscation to make her point. She would rather play it safe and not trust instruments at all.

A final reason that Cavendish might offer in support of her view that instruments are deceptive is just an inductive argument from the difference between the productions of non-human bodies and the artifacts that are produced by us. Non-human bodies come together to form things like the eyeball, heart, and placenta, and Cavendish would say that human creations are

nowhere close to these in terms of the knowledge and sophistication that enters into them. There is positive evidence that some instruments obscure our perceptions. Given the human artifice that goes into the making of such instruments, she might argue, we would *expect* them to fall short.

Cavendish holds that human-made instruments tend to have an obfuscatory effect on our perception of objects. We can make meticulous observations with our five senses, however, and if we are careful, we can penetrate to some of the inner-workings of an object without affecting the behavior of the bodies that compose it.[32] We will not arrive at a complete representation of an object; instead, we will gather the small amount of information that is available to us:

> the truth of an object will hardly be known; for the perception of sight, and so of the rest of the senses, goes no further then the exterior Parts of the object presented…[33]

There are bodies in the plenum that are contiguous with each other, and these bodies notice things that our senses and reason do not. Human-made instruments will not do much to help us, Cavendish is supposing.[34] She would also appear to hold that we can acquire all of the information that we need so long as we team up with non-human bodies. They have a history of acquiring detailed and intricate information, and they are already in the know.

There are a number of objections that we might raise against Cavendish at this point. One is that she is far too hasty to conclude that instruments cannot give us unimpeded access to bodies that our senses cannot reach. Perhaps there are cases in which we should be concerned that instruments might be distorting our perception of objects, especially if the only perceptions that we have of a particular object are via instruments, and we are not able to compare these perceptions to the truth about the object – to see if they are a match. However, we might wonder how Cavendish would respond if we showed her a distant tower through a telescope and then walked with her to see the same tower in person. There is no evidence that Cavendish ever ran this sort of experiment, but it was certainly familiar to her,[35] and so it is hard to understand why she would be so insistent that many of our instrument-assisted perceptions are distorting.[36] Perhaps if push came to shove, she would concede that some of the observations that we make via instruments can be trusted, but only those observations that can also be validated by the naked eye.[37] Even if she made this concession, however, she would still be expressing a general skepticism about the trustworthiness of instruments, and without any positive reason for thinking that they mislead us. After all, our perception of a body through an instrument might *seem* butchered, but the instrument might also be providing us with information about the body that we cannot procure on our own. Cavendish allows that the non-sensory faculty of *reason* is able to penetrate to places where the senses cannot; it is speculative, but

trustworthy. It is not clear why she does not give the same benefit of the doubt to instruments more generally. Her doctrine of patterning inclines her to conclude that instruments result in obscure perceptions, but she might have reconsidered the doctrine of patterning, or at the very least she might have allowed that in many cases two patterns can be just as clear as one.

Another objection to Cavendish is that she is being very conjectural when she says that art at any stage of its development is not as sophisticated or advanced as the operations of more elemental bodies. It would appear in fact that she has been proven wrong: there have been test-tube babies, cloned sheep, and vaccinations for crippling diseases like polio. A plausible response that Cavendish might give to this objection is to retreat – just a little – and reiterate her view that when human artifice *is* extraordinary, it is leaning heavily on the capacities of non-human bodies, and so is not human artifice alone. She concedes that physicians who focus their attention on a single disease might be able to come up with impressive cures and treatments, and so her view is not that human artifice is unimpressive as a rule. She instead wants to emphasize that at its best it is heavily assisted. No matter what human beings are able to construct at a given point in their history, she thinks, their productions are always due in large part to the extraordinary capacities of non-human bodies. If such bodies were not intelligent, active, and perceptive, our attempts to combine them into new forms would proceed very differently than they do now. As she had put it, art can make a sword or knife, but not the metal out of which it is composed, and if we tried to make a sword out of bodies that had the dispositions of butter – however suited those dispositions are for other purposes – we would be out of luck.

At this point, however, we might proceed to present Cavendish with technology that is extremely advanced and that did not exist in her time: we might attempt to use such technology to fabricate a metal, and to contradict her view that that is not possible for us. She would presumably respond that if we are successful, it is because we have worked with the grain of more basic bodies still: a human being *can* fabricate metal, but it cannot make the materials out of which metal is made, with all of *their* requisite dispositions. To the extent that we succeed, she would argue, the creative product is more the work of non-human bodies than it is the work of human artifice. She might add: all of this then further supports her view on the knowledge and skill that is ubiquitous in nature. The contiguous bodies of the plenum have a longer history of working together than we have of working with them, and there are local perceptions that they have on-site and in context that are simply not available to us. If she is right that the universe is a plenum of bodies and that all bodies have some impact on the bodies that surround them, there is likely to be information that we would miss in our attempts to construct an eye, sinus cavity, placenta, heart, or other such body. If we are successful, she would say, it is because we have made use of subordinates that possess information and know-how that we do not. To the extent that human

artifice is successful, she might say, it is not really human artifice. She might add that her general debunking of instruments is targeted at instruments that do not piggyback enough on the methodical knowledge of non-human bodies. In cases where she judges an instrument to be deceptive, she might concede that for all she knows she is mistaken, but only because the instrument incorporates more such knowledge than is apparent at first sight.

Cavendish does allow that some human artifacts are useful and effective. She looks back nostalgically to the simplicity and elegance of the craftwork of ancient peoples, in particular to the Romans and Egyptians:

> surely the ancients had as good and regular rational and sensitive perceptions, and as profitable Arts and Sciences as we have; and the world was governed as well, and they lived as happily in ancient times, as we do now, nay more. As for example; how well was the World governed, and how did it flourish in *Augustus*'s time? how many proud and stately Buildings and Palaces could ancient *Rome* shew to the world, when she was in her flower? The Cedars, Gold, and many other curiosities which *Solomon* used in the structure of that Magnificent Temple, (the like whereof our age cannot shew) were as safely fetch'd and brought to him out of forreign places, as those commodities which we have out of other Countries either by Sea or Land: Besides, I doubt not but they had as profitable and useful Arts and knowledges, and as skilful and ingenious Artists as our age can boast of; if not the very same, yet the like, and perhaps better, which by the injury of time have been lost, to our great disadvantage; it may be they had no Microscopes or Telescopes, but I think they were the happier for the want of them, imploying their time in more profitable studies: What learned and witty people the *Egyptians* were, is sufficiently known out of ancient Histories, which may inform us of many more.[38]

Cavendish admires the artist or scientist who does not attempt to break nature down to its parts and then build back up. Instead, the wise observer recognizes that in the course of time bodies would have already combined into far more sophisticated configurations than we are able to assemble. This person employs their time in the most profitable kind of study: they locate methods for using bodies to the advantage of human beings, but they do this by recruiting bodies to do the things at which bodies are expert, the things that bodies have been doing all along:

> Art is not onely gross in comparison to Nature, but, for the most part, deformed and defective, and at best produces mixt or hermaphroditical figures, that is, a third figure between Nature and Art: which proves, that natural Reason is above artificial Sense, as I may call it:

> wherefore those Arts are the best and surest Informers, that alter Nature least, and they the greatest deluders that alter Nature most…[39]

Here Cavendish is again anticipating Hume and the arguments of *Dialogues on Natural History and Religion*. According to Hume, we do not need to posit an intelligent deity to account for the order that is exhibited in nature; we can posit instead that matter has the requisite faculties for bringing about order on its own. If we did posit a deity, we would have to say that there is a being that has the resources to bring about order and that has no further explanation for its existence and nature. Hume supposes that that being might just be eternal nature itself:

> It was usual with the Peripatetics, …when the cause of any phenomenon was demanded, to have recourse to their *faculties* or *occult qualities*, and to say, for instance, that bread nourished by its nutritive faculty, and senna purged by its purgative: But it has been discovered, that this subterfuge was nothing but the disguise of ignorance; and that these philosophers, though less ingenious, really said the same thing with the sceptics or the vulgar, who fairly confessed, that they knew not the cause of these phenomena. In like manner, when it is asked, what cause produces order in the idea of the supreme Being, can any other reason be assigned by you, anthropomorphites, than that it is a *rational* faculty, and that such is the nature of the Deity? But why a similar answer will not be equally satisfactory in accounting for the order of the world, without having recourse to any such intelligent Creator as you insist on, may be difficult to determine. It is only to say, that *such* is the nature of material objects, and that they are all originally possessed of a *faculty* of order and proportion.[40]

If we allow that an immaterial mind could exist without a cause, and be in possession of an intrinsic and unexplained ability to order its own states and also the states of the universe, there is no reason to deny that there could exist uncaused eternal matter with a similar brute ability. Like Cavendish, Hume concedes that the capacities of eternal matter are not necessarily things that we would understand especially well. He also agrees with Cavendish that we do not have a very good understanding of eternal mind either.[41] Both philosophers suppose that we have to posit the existence of sophisticated matter whether we think that God created it or not, but Cavendish insists that matter is so sophisticated as to be intelligent.[42] She also insists that talk of God should be completely off the table.

Cavendish looks nostalgically to artifacts from eras that were less scientific and technological, but she also admires some of the artifacts of her own time. She admits,

> I do verily believe, that some of the Chymical medicines do, in some desperate cases, many times produce…powerful and sudden effects…[43]

She also recognizes the new procedures and surgeries that can help to maintain a person's quantity of motion. For example, the removal of a person's spleen might sometimes save their life.[44] In all such instances, Cavendish supposes that we will be most successful as scientists and artists if we work with the grain and piggyback on the longstanding strengths and defenses of which bodies are already in possession. We might take shortcuts that involve fewer painstaking observations – and less knowledge and information – but our remedies will be less effective as a result. In many cases a remedy is not even necessary, and nature has provided for us enough:

> you rail against our good Mother Earth, from whose Bowels we receive Life, and Food to maintain that Life she gives us: She is our kind Nurse, from whence we suck (out of her springing breasts) fresh water; and are fed by her Hand of Bounty, shaded under her spreading-Boughs, and sheltred from Storms in her thick Groves.[45]

Cavendish does have to admit that sometimes a creature will undergo horrible trauma and suffering, without any hope of relief.[46] As we have seen, and as we will see further in chapter seven, her response to such cases is that the universe is not just about us and our needs and that at a certain point the bodies that constitute a human being will dissipate and come to have different goals entirely. There are certain eventualities that we cannot avoid – there is nothing that we can do about these – but Cavendish also supposes that we bring much of our misfortunate upon ourselves. We fail to respect the sophistication and intelligence of our bodies; we abuse them, and we are blind to the resources that might come to our aid. In this regard she again respects the animals that we take to be beneath us:

> They take no Physick to destroy
>
> That Health which Nature to them gave:
>
> Nor rul'd by Tyrants Laws, annoy,
>
> Yet happy seem with what they have.
>
> With cares Men break their sweet repose,
>
> Like Wheels that wear with turning round:
>
> Beasts quiet thoughts their Eye-lids close,
>
> And in soft sleep all cares they drown'd.

> No Rattles, Fairings, Ribbons, Strings,
>
> Fiddles, Pipes, Minstrelses, them move,
>
> Or Bugle Bracelets, or fine Rings,
>
> And without *Cupid* maketh Love.[47]

Nature has not provided for us in the sense that we can manipulate its productions to avoid death and disease. Cavendish would be absurd to defend *that* view. Nature has provided for us instead in the sense that the non-human bodies that compose us strive to maintain a quantity of motion, in part by networking with bodies that can assist us. If Cavendish is right, non-human bodies have a tremendous amount of know-how, and we would be wise to tap into this know-how to help to maintain our structural integrity. We would be wise to do this, Cavendish thinks, but we try to go it on our own, and to devastating effect:

> neither can this art produce so many medicines as there are several diseases in Nature, and for the Universal Medicine, and the Philosophers-stone or Elixir, which Chymists brag of so much; it consists rather in hope and expectation, then in assurance…[48]

Some artifacts and medicines can help us, Cavendish allows. We tend to have contempt for remedies that are not artificial, however, and we undermine ourselves as a result. Non-human bodies are much more knowledgable, and she supposes that if we took advantage of the legwork that has already been done by them, we would be much better off.

Three different kinds of matter

Cavendish is on record as advancing the view that the material universe is wise and all-knowing and has ideas of all of its states. Each region has ideas of its own states and the states of the bodies with which it is contiguous, and the totality of these ideas constitute a more or less complete picture. One of the ways that she further fleshes out the knowledge and know-how of the plenum is by making a distinction between three kinds of matter, two of which are highly perceptive.[49] As we saw in chapter one, Cavendish takes *rational* matter to be creative and penetrating; it forms new ideas on the basis of images that form in sense perception, and picks up on aspects of external bodies that the senses miss. Rational matter is quick and agile; it is able to enter into creative configurations very easily, and to maneuver to form images that the senses cannot.[50] We might pause at the suggestion that bodies would be able to form a creative pattern on their own, but Cavendish is supposing that the suggestion is not unlikely at all. We sometimes describe ourselves as having authored a

particular creative thought, but Cavendish would note that in many such cases a thought just comes to us on its own already formed. We do not author the thought in the sense of crafting it with an eye to a model, for in that case the model would have had to present itself – with bodies having already entered into formation, just as Cavendish is supposing. The imagistic material that enters into a picture configuration is creative and sophisticated in its own right, she argues; otherwise most of our thinking would not unfold as it does.

Rational matter is also largely responsible for the order that is exhibited in nature. It interacts with bodies with which it is contiguous, communicating with them about how to realize their aims and goals:

> the rational being the most subtil, active, observing and inspective parts, have, for the most part, more power over the sensitive, then the sensitive have over them; which makes that they, for the most part, work regularly, and cause all the orderly and regular compositions, dissolutions, changes and varieties in the infinite parts of Nature; besides, their perception and observation being more general, it lasts longer; for the rational continue the perception of the past actions of the sensitive, when as the sensitive keep no such records.[51]

Rational matter guides bodies in their organized behavior, and it knows some of the history of these bodies, in a way that allows interactions to be as informed as possible. Interactions *are* informed – otherwise bodies would not be able to coordinate their behavior as well as they do – and so bodies have ideas of more than just the states of the moment.

Cavendish attempts to flesh out the distinction between rational, sensitive, and inanimate matter with an analogy between the architect of a house, the workmen, and the materials. She writes,

> since the Animate part of Matter is the onely architect, creator, or producer of all those effects, by reason it is the self-moving part, and the Inanimate is onely the instrument which the Animate works withal, and the materials it works upon, the Production of the infinite effects in Nature is more fitly ascribed to the Animate then the Inanimate part of matter; as for example, If an architect should build an house, certainly he can do nothing without materials, neither can the materials raise themselves to such a figure as a house without the help of the architect and workmen, but both are of necessity required to this artificial production; nevertheless, the building of the house is not laid to the materials, but to the architect: the same may be said of animate and inanimate matter in the production of natural effects…[52]

Here Cavendish is supposing that some matter is more perceptive and creative than other matter and that some matter is wholly inert. Pressing her analogy,

we are able to form an imagistic idea of a house much more quickly than any actual house could be built; if all configurations were composed exclusively of the same matter that enters into our ideas, houses and other such bodies would appear in an instant. But they do not. Nor do they last for only a few moments, as they would if they could go in and out of existence so easily. We can think quickly of a house, and then of a bigger house, and then even a houseboat. The configurations that surround us do not form straightaway, so Cavendish posits that they are not made of rational matter alone. The second kind of matter is *sensitive* matter. This is a kind of matter with which rational matter is able to communicate in its efforts to bring about order and organization. Sensitive matter has the resources to be on the receiving end of such communication; it is able to take instructions from rational matter, but is more slow and cumbersome. It tends to be agreeable in its interactions with rational matter, as is evidenced in the seamlessness of the order that we encounter.

The third kind of matter, Cavendish argues, is *inanimate*. The three kinds of matter are integrated and blended in such a way that they never exist in separation from each other, but they still play separate roles while they are united.[53] If all matter were rational matter, objects would enter into radically new formations on a regular basis. There exists sensitive matter to slow things down, and inanimate matter that slows things down further still:

> there was not onely an animate or self-moving and active, but also an inanimate, that is, a dull and passive degree of Matter; for if there were no animate degree, there would be no motion, and so no action nor variety of figures; and if no inanimate, there would be no degrees of natural figures and actions, but all actions would be done in a moment, and the figures would all be so pure, fine and subtil, as not to be subject to any grosser perception such as our humane, or other the like perceptions are.[54]

Here Cavendish is clearly reaching. She supposes that if all matter were animate, "all actions would be done in a moment," and the gradual change and progression that we witness in nature would be non-existent. An obvious objection to Cavendish is that even if we allow her the rational and sensitive matter that she posits, there might be these two kinds of matter alone: sensitive matter might exist on a continuum, partaking of a spectrum of activity from minimal to moderate (but short of quick and agile). Cavendish does not offer any reason for ruling out this (two-fold) categorization, and indeed it comports better with her vitalistic doctrine that nature is active and that bodies move by their own motion. Inanimate bodies do move, she allows, but only because they are intermixed with the other two kinds of matter:

> neither is there any inanimate part of matter in Nature, which is not comixed with the animate, and consequently, there is no part which is

> not moving, or moved; the Animate part of matter is the onely self-moving part, and the Inanimate the moved: not that the animate matter doth give away its own motion to the inanimate, and that the inanimate becomes self-moving; but the animate, by reason of the close conjunction and commixture, works together with the inanimate, or causes the inanimate to work with it…[55]

As we have seen, Cavendish holds that motion is never transferred without substance, and here she is expressing the view again when she states that "animate matter doth not give its own motion to the inanimate." What she leaves unclear, however, is how an inanimate body comes to move if not by its own motion or by receiving motion (and substance) from another body. She says that the animate "works together" with the inanimate – presumably to capture that any body that is surrounded by mobile rational and sensitive matter will move also – but she does not say how an inanimate body would come to have motion that is not actually transferred. She might retort that we have no idea how this happens – in line with her view that we have no idea how much of anything happens – but the suggestion here is that she has no need to posit inanimate matter in the first place. Instead, she could restrict herself to positing rational matter along with sensitive matter that is active on a spectrum; it is not clear why she posits inanimate matter as well. In addition, she says in other passages that all bodies are able to perceive and worship God, and that God would only create beings that are sophisticated and impressive. Inanimate bodies would not be perceptive, however, and so once again it is not clear why Cavendish feels the need to posit them. She will never ground her metaphysical views on assumptions about God, but neither does she want her metaphysical views to run counter to these. It is unclear why she posits inanimate matter when two kinds of animate matter would suffice for her systematic needs.

Other instances of knowledge in the plenum

For Cavendish, the material universe is a plenum that is wise and self-knowing. Its regions exhibit intelligence in communicating with the bodies with which they are contiguous, and they are intelligent in the order and organization that they display. Local regions of the plenum have self-knowledge, which they communicate, and in addition they acquire information about the bodies that surround them. Knowledge is also operative in bodies as they strive toward ends.[56] In particular, bodies have knowledge of the species that they strive to instantiate:

> if there were not Knowledg in all Generations or Productions, there could not any distinct Creature be made or produced, for then all

> Generations would be confusedly mixt, neither would there be any distinct kinds or sorts of Creatures, nor no different Faculties, Proprieties, and the like…[57]
>
> But there is to be noted, That Nature is so Regular, or wise, in her Actions, that the *Species* and Knowledg of every particular Kind, is kept in an Even, or Equal Balance: For example, The Death or Birth of Animals, doth neither add or diminish from, or to the Knowledg of the Kind, or rather the Sort.[58]

Here Cavendish is supposing that the production of members of a species has to be guided by a sense of what is to be produced, otherwise the products would not have so much in common. She does not necessarily employ Aristotelian language – perhaps because of the connotations that come with the Aristotelian notion of an immaterial form[59] – but she does (like Aristotle) embrace the view that teleology is ubiquitous in nature. For Cavendish, purposiveness and intentionality are at work in the behavior of all natural bodies, and Aristotle also took natural teleology to be pervasive: bodies work with an eye to a purpose or final cause, and in so doing they are guided by an idea – the formal cause – of what they aim to produce.[60] The language of "formal causes" is no doubt tricky if we conceive of ideas in Cartesian terms, where something is not an idea unless it is conscious: we would be required to say that bodies that engage in goal-directed activity have conscious ideas of what they aim to produce, and perhaps that they deliberate and reflect on how best to produce it. Aristotle nowhere suggests that conscious deliberation is a component of the teleological behavior of non-human agents; he would agree with Cavendish, More, and Cudworth that there is a distinction between the mentality of which a being is aware and mentality of which it is not. A formal cause is not always a conscious idea, for Aristotle or for Cavendish, but it is nonetheless a state that is mental and cognitive and intentional.

Cavendish supposes that the plenum is wise and all-knowing and that its knowledge includes ideas of the species that its regions work to instantiate. Bodies behave with an eye to ideas of species, and these ideas exist even if the species goes out of existence, or if it has never been instantiated at all:

> Whereas, the Divisions of particular Societies, causes what we name Death, Ignorance, Forgetfulness, Obscurity of particular Creatures, and of perceptive Knowledges; so that as particular perceptive Knowledges do alter and change, so do particular Creatures: for, though the Kinds and Sorts last, yet the Particulars do not.[61]

The argument that Cavendish offers for the view that there is knowledge of species even if the species are not instantiated is that nothing is ever lost in nature and nothing is created anew. She writes,

> because every particular figu[r]e is finite, that is every particular figure comes by degrees from creation to a full growth, from a full growth to a decay, from a decay to a dissolution; but not a Annihilation, for every particular figure lies in the body infinite, as well as every particular kinde; for unlesse eternal matter, and infinite matter, and eternal and infinite motions could be Annihilated, infinite figures wil eternally remain, although not in their whole bulk, yet in their parted pieces; for though one and the same matter may be made into other figures: yet the former figures have as much a being as the present figures, by reason the matter that was the cause of those figures hath an eternal being, and as long as the cause lasts, the effects cannot be Annihilated.[62]

This is not a terrific argument. Cavendish is on record as defending the view that matter is intelligent and creative. It enters into new composite ideas that are not copies of sensory images; she offers no reason why it could not be similarly creative in entering into ideas of species that have never existed. She embraces the view that the ubiquitous knowledge of the plenum includes ideas of all species, but she does not offer a compelling reason for that view. She might be right to argue that there is a sense in which nothing is ever lost in nature, but she concedes that *some* things are lost – for example, particular composites – and it is not clear why she supposes that ideas of species are not among the things that can be lost as well.

Cavendish also subscribes to the view that the ubiquitous knowledge of the plenum includes ideas of all of the past, present, and future configurations of bodies. She writes,

> some will say, when a house: for example, is pull'd down, by taking asunder the materials, that very figure of that house is annihilated; but my opinion is, that it is not, for that very figure of that house remains in those materials, and shal do eternally although those materials were dissolved into Atoms, and every Atome in a several place, part, or figure & though infinite figures should be made by those materials by several dissolutions and Creations, yet those infinites would remain in those particular materials eternally, and was there from all eternity…[63]

Spinoza of course accepts a similar view: he assumes that for every effect there exists an idea of its cause, and so for every change that takes place in a body, there exists an idea of its cause, and ideas of its causes, ad infinitum.[64] Cavendish does not posit that for every effect there is an idea of its cause, and so the motivation for her own view has to be different. One possible motivation is her conclusion that bodies perceive the bodies with which they are contiguous: if a body has to perceive the specifics of a nearby configuration in

order to organize its behavior, that body would need to retain that information in order to coordinate its activity in the future. Cavendish would not be able to conclude from this that the plenum retains information about *all* of its past and future states, however. The argument that she actually offers is (again) that nothing is lost in nature and nothing is new:

> when his figure is dissolved, his parts dispersed, and joyned with others, we may say his former form or figure of being such a particular man is buried in its dissolution, and yet liveth in the composition of other parts, or which is all one, he doth no more live the life of a Man, but the life of some other Creature he is transformed into by the transforming and figuring motions of Nature; nay, although every particle of his former figure were joyned with several other parts and particles of Nature, and every particle of the dissolved figure were altered from its former figure into several other figures, nevertheless each of these Particles would not onely have life, by reason it has motion, but also the former figure would still remain in all those Particles, though dispersed, and living several sorts of lives, there being nothing in Nature that can be lost or annihilated, but Nature is and continues still the same as she was, without the least addition or diminution of any the least thing or part, and all the varieties and changes of natural productions proceed onely from the various changes of Motion.[65]

As before, it is not clear that Cavendish can extract such a robust result from the view that nothing is created or lost in nature. If we were to apply the view so generally, we might conclude as well that no configuration of bodies ever decomposes, because that would be a loss, and we might conclude further that there can be no change in the plenum at all. Cavendish does not want to accept either of these conclusions, however, and it is not clear why she would be entitled to draw the line where she does – at the amount of matter that the universe contains, the species that it exhibits, and the knowledge of its past and future states. The more that she plays up the creativity and intelligence of matter, the more she should be open to the view that new ideas come into existence and that knowledge is in some cases lost for good.

Nature as mostly self-knowing

Cavendish has argued that intelligence is pervasive in nature and that the bodies of the plenum have perceptions of the bodies that are contiguous with them. She has also said that nature as a whole is all-knowing. Rational matter has ends and goals, and it directs other bodies to act in accord with these. It has ideas of its ends and goals, as does the sensitive matter that understands the directions that rational matter gives to it. Inanimate matter does not

understand anything at all, but even if Cavendish retains it, the plenum could still be all-knowing: it could have ideas of all its states so long as rational and sensitive matter had ideas of all of the states of inanimate matter as well. Cavendish has also argued that the plenum of bodies contains ideas of all species that ever exist and that the plenum has knowledge of all of its past and future states. In the end, however, she retreats from the view that the knowledge of nature is so encompassing. For example:

> how should a part understand the Infinite body, when it doth not understand it self; but Nature understands her parts better, then they do her.[66]

Cavendish is conceding in this passage that nature is *not* all-knowing. Perhaps she is recognizing that she does not have enough support to ground the view that the plenum has ideas of its past and future states, or that it has ideas of all species that ever exist. She is entitled to the conclusion that the plenum has ideas of its current states and also the goals toward which its regions are directed – *if* she is correct that bodies strive to achieve aims and goals, for example in preserving quantities of motion, and if she is correct that contiguous bodies communicate with each other and that bodies need to be intelligent thinkers in order to do that. However, she is not entitled to the conclusion that the plenum has knowledge of all of the species that it might instantiate or that it has ideas of all of the states that it undergoes. Given her larger fallibilism, perhaps she would not stand behind these conclusions anyway. Perhaps she would not stand behind them as firmly as she stands behind some of her other results – for example, that thinking must be material if it is able to interact with bodies and move with them from place to place. She is fallibilistic with respect to *all* of the conclusions at which she arrives, but perhaps she would concede that she offers less compelling arguments for some theses than for others; perhaps she would allow that the plenum is more or less all-knowing and that it is difficult to specify where exactly its knowledge starts and stops. Many philosophers would be uncomfortable with such a hand-wavy result, but as we have seen, Cavendish does not appear to be among them.

Indeed, her retreat from a very robust version of the thesis that nature is all-knowing would appear to be explicit. She says in the above-cited passage that nature "doth not understand itself," and she also allows there are respects in which the plenum contains actual (and not merely apparent) confusion. More specifically, she says that the plenum contains ideas whose component bodies separate from each other and no longer form a picture of anything existent. A central cause of confusion, for Cavendish, is the divisibility of matter:

> there is no part of Nature that has not sense and reason, which is life and knowledg; and if all the infinite parts have life and knowledg,

> Infinite Nature cannot be a fool or insensible: But mistake me not, for I do not mean, that her parts in particular are infinitely knowing, but I say Infinite Nature hath an Infinite knowledg; and by reason Nature is material, she is divideable as well as composeable, which is the cause that there is an obscurity in her Parts, in particular, but not in general, that is, in Nature her self…[67]
>
> When I say, That *Ignorance is caused by division, and knowledg by composition of parts;* I do not mean an interior, innate self-knowledg, which is, and remains in every part and particle of Nature, both in composition and division; for wheresoever is matter, there is life and self-knowledg; nor can a part lose selfknowledg, any more then it can lose life, although it may change from having such or such a particular life and knowledg; for to change and lose, are different things; but I mean an exterior, perceptive knowledg of forreign parts, caused by self-motion, of which I say, that as a union or combination of parts, makes knowledg, so a division or separation of parts, makes Ignorance.[68]

Cavendish supposes that each region of the universe has ideas of its current states and that local self-knowledge adds up to the self-knowledge of the larger plenum. In line with her view of the divisibility of matter, however, she is committed to saying that the ideas that compose a representation can be severed from each other in a way that results in a picture that is fictional. The divisibility of bodies would appear to give Cavendish at least some reason to retreat from her view that the plenum has knowledge of its past states. Even if bodies need to have ideas of the bodies in their local environment in order to communicate with them, and to coordinate their respective behaviors, bodies might need to have these ideas only for a short period of time. Bodies might communicate successfully in the moment, and their ideas of the histories of surrounding bodies could gradually dissipate.

A final problem for Cavendish concerns her view that bodies cannot exhibit order and organization unless they are guided by intelligence. She clearly subscribes to the view, and she clearly needs it as part of her defense of the claim that nature is (for the most part) all-knowing. However, she also holds that causes necessitate their effects. If material causes are sufficient to bring about their effects, then it is not clear why Cavendish would hold that there is teleology in nature and that thought and intelligence are required to bring about organization and order. Instead, all of the material causes could be in place that Cavendish specifies, and if they were sufficient to bring about an orderly organization of bodies without being intelligent, then intelligence would not be required to bring about order. Her response to this objection is presumably to reiterate two maxims of reason that she takes to be utterly compelling and obvious. They are so obvious, she thinks, that they both have

to serve as constraints on any theory of reality. One of these maxims is that beings cannot exhibit order unless they are guided by intelligence; the other is that causes necessitate their effects. If both of these are true, then they are true together, and the causes that necessitate their effects include intelligent thinking bodies. That is to say, Cavendish is supposing that intelligence and goal-directedness can coexist within a broader scheme of necessitation.

Notes

1 Note that this reading is suggested in Michaelian (2009), 37–38.
2 *PL*, 433.
3 In the elided part of the passage, Cavendish mentions an inanimate component of the plenum; there will be a discussion of this sort of matter later in the chapter.
4 *Ethics*, Ip5, 218–219.
5 *Ethics*, Id2, 217. As we saw in chapter four, Cavendish holds that what it is for the universe to be infinite "in number" is for there to be no further matter that limits it.
6 *GNP*, 10–11.
7 *OEP*, 4.
8 *OEP*, 15.
9 *PL*, 407. See also *OEP*, 193–194: "It is impossible that there can be single parts, or parts subsisting by themselves, without reference to each other, or the body of Nature; so it is impossible that there can be single knowledges. Neither can there be a single magnitude, figure, colour, place, *&c.* but all that is corporeal, has parts; and by reason Nature is a self-moving, and self-knowing body, all her parts must of necessity be so too. But particular composed figures, and particular degrees of Matter, are not single parts, nor are particular actions single actions, no more then a particular Creature is a single part; for it would be non-sense to say single compositions, and single divisions; and therefore particular and single are not one and the same; and as there can be no such thing as Single in Nature, so there can neither be single knowledges and perceptions: Which is well to be observed, lest we introduce a *Vacuum* in Nature, and so make a confusion between her parts and actions."
10 *WO*, 174.
11 Spinoza has to say that such ideas are merely apparent given his view that the series of mental modifications conforms exactly with the series of actually existing physical modifications (or bodies). See for example *Ethics* IIp7, 247.
12 See *Ethics* IIp7–32.
13 *Ethics*, scholium to IIp8, 248.
14 So the idea of a circle with a single chord would be an idea of a non-existent object, but we don't have that idea after all.
15 *PL*, 135. See also *PL*, 147; and *OEP*, "Further Observations Upon Experimental Philosophy," 72.
16 *OEP*, 224. See also *SL*, Letter CCVI, 436–442.
17 *NP*, 76. See also PL, 285.
18 *PL*, 500. See also *OEP*, 115–116: "But to return to Artificial Congelations; there is as much difference between Natural and Artificial Ice and Snow, as there is between Chalk and Cheese; or between a natural Child, and a Baby made of Paste or Wax, and Gummed-silk; or between artificial Glass, and natural Diamonds; the like may be said of Hail, Frost, Wind, &c. for though their exterior figures do resemble, yet their interior natures are quite different; and therefore, although by the help of Art some may make Ice of Water or Snow, yet we cannot conclude

from hence that all natural Ice is made the same way, by saline particles, or acid Spirits, and the like; for if Nature should work like Art, she would produce a man like as a Carver makes a statue, or a Painter draws a picture…" See also *OEP*, "Further Observations Upon Experimental Philosophy," 11.

19 Here we might also refer back to the chapter one discussion of Cavendish's view on the practical benefits of recognizing our limits.

20 *OEP*, 165. See also *OEP*, 163–164.

21 *OEP*, 195. See also *GNP*, 51–52: "every Part, or Corporeal Motion, knows its own Office; like as Officers in a Common-wealth, although they may not be acquainted with each other, yet they know their Employments: So every particular Man in a Common-wealth, knows his own Employment, although he knows not every Man in the Common-wealth."

22 *PL*, 302–3. See also *PL*, 152–153: "And why may not the sensitive and rational part of Matter know better how to make a Bee, then a Bee doth how to make Honey and Wax? or have a better communication betwixt them, then Bees that fly several ways, meeting and joyning to make their Combes in their Hives? But pardon, *Madam,* for I think it a Crime to compare the Creating, Generating and producing Coporeal Life and Wisdom of Nature unto any particular Creature, although every particular Creature hath their share, being a part of Nature."

23 *OEP*, "Further Observations Upon Experimental Philosophy," 74–75.

24 See for example "The Comical Hash," *Playes*, 561; but also Sarasohn (2003), 50; Bowerbank (2004), 62; Sarasohn (2010), 123; Webster (2011), 716; and Wright (2014), 55–56. Sarasohn points out how this is another important difference between the thinking of Cavendish and Hobbes. Cavendish supposes that all creatures are of the same basic sort and concludes that all merit as much respect and admiration as we take to be merited by human beings; Hobbes argues that all creatures are of the same basic sort, but he appears to incline toward the conclusion that we are lower on the hierarchy of being than we might have initially imagined.

25 See Bacon, *Novum Organum*, aphorisms 98 and 121, pp. 108, 123.

26 See also *OEP*, "Further Thoughts Upon Experimental Philosophy," 16: "it is a false Maxime to believe, that if some Creatures have power over others, they have also power over Nature: it might as well be believed, that a wicked Man, or the Devil, hath power over God; for although one Part may have power over another, yet not over Nature, no more then one man can have power over all Mankind: One Man or Creature may over-power another so much as to make him quit his natural form or figure, that is, to die and be dissolved, and so to turn into another figure or creature; but he cannot over-power all Creatures; nay, if he could, and did, yet he would not be an absolute destroyer and Creator, but onely some weak and simple Transformer, or rather some artificial disfigurer and misformer, which cannot alter the world, though he may disorder it…." See also Wright (2014), 147. Some commentators have argued that Cavendish's view of body as inherently active is feminist or proto-feminist, at least implicitly, insofar as she is critiquing the masculinist position in Bacon and others that natural bodies are to be brought into submission and dominated. See for example Rogers (1998), 178, 186; O'Neill (2001b), xx; Lewis (2001), 345; and Sarasohn (1984), 289–307. Deborah Boyle has argued that although Cavendish is certainly expressing proto-feminist positions in *The description of a new world, called the blazing-world* and other political writings, her vitalistic conception of matter is due more to metaphysical considerations like that motion cannot be transferred without a transfer of substance. See Boyle (2004), 221. I agree with Boyle (217–220) that it is speculative to assert that Cavendish's view of matter is feminist or proto-feminist, but Cavendish would not be averse to such speculation.

27 But see also Battigelli (1998), 94–97; Hutton (2003), 163–164; Moreman (1997), 141–142.
28 "*Of* Micrography, *and of* Magnifying *and* Multiplying Glasses," *OEP*, 7–8.
29 *OEP*, 8–10. Cavendish continues, "if a Painter should draw a Lowse as big as a Crab, and of that shape as the Microscope presents, can any body imagine that a Beggar would believe it to be true? but if he did, what advantage would it be to the Beggar? for it doth neither instruct him how to avoid breeding them, or how to catch them, or to hinder them from biting. Again: if a Painter should paint Birds according to those Colours the Microscope presents, what advantage would it be for Fowlers to take them? Truly, no Fowler will be able to distinguish several Birds through a Microscope, neither by their shapes nor colours; They will be better discerned by those that eat their flesh, then by Micrographers that look upon their colours and exterior figures through a Magnifying-glass. In short, Magnifying-glasses are like a high heel to a short legg, which if it be made too high, it is apt to make the wearer fall, and at the best, can do no more then represent exterior figures in a bigger, and so in a more deformed shape and posture then naturally they are; but as for the interior form and motions of a Creature, as I said before, they can no more represent them, then Telescopes can the interior essence and nature of the Sun, and what matter it consists of; for if one that never had seen Milk before, should look upon it through a Microscope, he would never be able to discover the interior parts of Milk by that instrument, were it the best that is in the World; neither the Whey, nor the Butter, nor the Curds. Wherefore the best optick is a perfect natural Eye, and a regular sensitive perception, and the best judg is Reason, and the best study is Rational Contemplation joyned with the observations of regular sense, but not deiuding Arts…" (*OEP*, 11–12).
30 *OEP*, 23.
31 *OEP*, 39–40.
32 For example, doctors are able to do this when they diligently study a single disease. See for example the discussion in chapter one.
33 *OEP*, 8.
34 See also Walters (2014), 72–75.
35 There is one passage in which she reveals that she is aware of this sort of experiment, but she is still wholly dismissive. She writes, "Tis true, we may perhaps through a Telescope see a Steeple a matter of 20 or 30 miles off; but the same can a natural Eye do, if it be not defective, nor the medium obstructed, without the help of any such Instrument; especially if one stand upon a high place: But put the case, a man should be upon the *Alps,* he would hardly see the City of *Paris* from thence, although he looked through a Telescope never so perfect, and had no obstruction to hinder his sight: and truly the Stars and Planets are far more distant from us then *Paris* from the *Alps*" (*PL*, 153).
36 She insists for example that no matter what our instruments show us, flies have two eyes at most (*OEP*, 23). But she does acknowledge that in rare instances some instruments can be very useful (*PL*, 496).
37 Indeed, she appears to be making this concession in the passage about the telescope and the not-too-distant steeple (at *PL*, 153); she seems to allow that we can trust a telescope with respect to short-range observations that we can confirm, but not with respect to observations (for example of the stars and planets) that can be made via instruments only.
38 *OEP*, "Further Observations Upon Experimental Philosophy," 2–3.
39 *OEP*, 12–13. See also *ODS*, 216; and *OEP*, "Further Observations Upon Experimental Philosophy," 86.
40 Hume, *Dialogues Concerning Natural Religion*, 65.

41 Hume says that we have so little understanding of the difference between eternal mind and eternal matter that it is impossible to say anything specifically different about the two (*Dialogues Concerning Natural Religion*, 58–59, 6, 164).
42 Hume allows that eternal matter would be able to do extraordinary things, and result in order and organization, but it would do these blindly, he supposes, and without know-how or awareness. He posits instead that it would possess a "faculty of order and proportion" (65). Cavendish would wonder why Hume is not willing to identify eternal matter as intelligent, especially if it appears to engage in intelligent behavior and if much of the intelligence that guides human behavior takes place below the threshold of awareness.
43 *PL*, 285.
44 *OEP*, "Further Observations Upon Experimental Philosophy," 52–53.
45 *NP*, 291.
46 One of the themes of chapter seven is that the situation of an organism as it strives to maintain its quantity of motion is often very difficult; Cavendish will recommend a response of stoical adaptation.
47 *NP*, 150.
48 *PL*, 284.
49 For very helpful discussions of Cavendish on the three kinds of matter, see also Sarasohn (2010), 57–72, 104–106; Battigelli (1998), 100–102; James (1999), 225–231; Lewis (2001), 360–362; Michaelian (2009), 35–36.
50 See also *GNP*, 9.
51 *OEP*, 169–170.
52 *PL*, 531.
53 For a very helpful discussion of the blending of the three kinds of matter, see O'Neill (2013), 315.
54 *OEP*, "An Argumental Discourse," Unnumbered. See also *PPO*, 105: "THe rational innate matter, moves as it were two-fold, for they have different motions in the figures, from the figurings, like as the sensitive matter, which moves the dull part of matter, internally and externally, according to the nature of each figure; as for example, the creating of a figure is one way, and the severall actions of the created is another way; the like doth the rational innate matter, it first runs into figures, and then moves figuratively: Again, some figures they are stronger then others, will force the weaker figure to move after their manner."
55 *PL*, 444.
56 See also the extremely helpful discussions in Detlefsen (2006), 207–227, and Detlefsen (2009), 427–432.
57 *PL*, 45.
58 *GNP*, 164. See also *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 21–22.
59 Or perhaps because she does not appear to have read Aristotle. But it is surprising to think that she would not have been very familiar with his views given her attendance at meetings of the Cavendish Circle, and given her discussions with her brother-in-law Charles.
60 See for example Aristotle, *Physics*, Book II, chapters i-ii, 93–97.
61 *GNP*, 67. See also *OEP*, "Further Observations Upon Experimental Philosophy," 14–15; *GNP*, 67; *GNP*, 234; and *PPO*, 39.
62 *PPO*, 39.
63 *PPO*, 31.
64 *Ethics*, Iax4, 218.
65 *OEP*, 41–42. See also *PL*, 148.
66 *PL*, 302–303.

67 *OEP*, 64. See also *GNP*, 99: "SOme may ask the Question, *Whether a dead Man hath any Knowledg or Perception*? I answer, That a dead Man hath not a Human Knowledg or Perception; yet all, and every Part, hath Knowledg and Perception: But, by reason there is a general alteration of the actions of the Parts of a Human Creature, there cannot possibly be a Human Knowledg or Perception."

68 *OEP*, "To the Reader," unnumbered. See also *PL*, 172: "And as Nature is ingenious and knowing in her self, so in her Parts, and her Parts in her; for neither whole nor Parts are ignorant, but have a knowledg, each according to the motion of its own Parts; for knowledg is in Motion, and Motion in Matter; and the diversity and variety of motion is the diversity and variety of knowledg, so that every particular figure and motion hath its particular knowledg, as well as its proper and peculiar parts; and as the parts join or divide, so doth knowledg, which many times causes Arts to be lost and found, and memory and remembrance in Particular Creatures…"

6

FREE WILL AND AGENCY

Cavendish has argued that individual composite bodies are immersed in a plenum and that the behavior of a body is a direct function of its own motions and the motions of the bodies that surround it. She also assumes as an axiom that if given cause (or set of causes) is in place, its effect is necessitated. Some bodies have the wherewithal to move as they please and to secure their aims, without other bodies getting in their way. Cavendish will argue that these bodies are free. And she will argue that bodies are free for the most part: they tend to work in concert with each other, at least for extended stretches of time, with an eye to common goals and interests. In some instances, though, bodies interfere with each other and dominate bodies that are weaker. The latter are not free unless they adjust their aims and goals accordingly.

Libertarian freedom and theology

As in the case of other metaphysical questions, Cavendish presents both theological and non-theological arguments in tackling the issue of the nature and existence of freedom. Her theological arguments tend to lean against a libertarian view. For example, she writes,

> GOD hath an Infinite Knowledg, He hath also an Infinite Fore-knowledg; and so, fore-knows Nature's Actions, and what He will please to decree Nature to do: so that, GOD knows what Nature can act, and what she will act; as also, what He will decree: and this is the cause, that some of the Creature's or Parts of Nature, especially Man, do believe *Predestination.*[1]

> As if poore *Man* the *Gods* had not foreknow'd.
> For why, said they, if *Men* do evill grow,
> The *Gods* foreseeing all, *Men's Hearts* do know,
> Long, long, before they made, or were create;

If so, what need they *Change,* or alter *Fate?*
Twas in their power to make them *good,* or *ill:*
If so, *Men* cannot do just what they will.
Then why do *Gods* complaine against them so,
Since *Men* are made by *them* such waies to go?[2]

Cavendish does not conclude in either of these two passages that natural bodies lack free will. She says that God knows what nature can do, and what it will do; and an omniscient being is presumably never mistaken.

In another passage Cavendish writes that bodies are free, but that they are free in a way that is consistent with their inability to oppose God's decrees:

> THough Nature's Parts have Free-will, of Self-motion; yet, they have not Free-will to oppose *GOD's Decrees*…[3]

As we have seen, however, she is very cautious when it comes to putting weight on arguments that contain theological premises. In yet another passage she explicitly steers away from a discussion of theology and (its implications for) freedom, but instead just expresses a humble piety:

> Tis true, many persons are much troubled concerning Free-will and Predestination, complaining, that the Christian Church is so divided about this Article, as they will never agree in one united belief concerning that point; which is the cause of the trouble of so many Consciences, nay, in some even to despair. But I do verily believe, that if man do but love God from his soul, and with all his power, and pray for his saving Graces, and offend not any Creature when offences can or may be avoided, and follow the onely Instructions of the sacred Church, not endeavouring to interpret the Word of God after his own fancy and vain imagination, but praying zealously, believing undoubtedly, and living virtuously and piously, he can hardly fall into despair, unless he be disposed and inclined towards it through the irregularities of Nature, so as he cannot avoid it. But I most humbly thank the Omnipotent God, that my Conscience is in peace and tranquility, beseeching him of his mercy to give to all men the like.[4]

Cavendish is reluctant to appeal to theological premises in the course of doing philosophy, but she supposes that it is always safe to encourage piety. Her opponents might appeal to such premises, and Cavendish will insist that her final positions will always be consistent with these. She will also insist that a proper conception of freedom has to square with the result that there is a

necessary connection between a cause and its effect and that bodies cannot behave in any other way than is dictated by their own motions and the motions of the bodies that surround them.

Compatibilism

Cavendish supposes that the bodies of nature tend to be free,[5] but her understanding of freedom is wholly compatibilist. One of the arguments that she offers for her compatibilist view of freedom is that the bodies of the plenum have the specific motions that they do at any given moment, and there do not exist alternate motions in the light of which things could unfold differently than they do. The plenum is all that there is, and with no source of alternative motions inside of the plenum or out, a body has no option but to behave exactly as it does. Cavendish suggests the argument here:

> Nature… is so much necessitated, that she depends upon the All-powerfull God, and cannot work beyond her self, or beyond her own nature; and yet hath so much liberty, that in her particulars she works as she pleaseth, and as God has given her power; but she being wise, acts according to her infinite natural wisdom, which is the cause of her orderly Government in all particular productions, changes and dissolutions, so that all Creatures in their particular kinds, do move and work as Nature pleases, orders and directs; and therefore, as it is impossible for Nature to go beyond her self; so it is likewise impossible that any particular body should extend beyond it self or its natural figure.[6]

Cavendish does reference God in the passage, though only to repeat that the author of nature has given bodies their specific motion and power. She supposes that bodies have their motion (and also the substance from which their motion is inseparable) for eternity, even if they acquire it from a cause that is separate from them. At any given moment bodies have the motions that they do, and they cannot behave in the light of – or be influenced by – alternative motions that are not part of the plenum and that hence do not exist. We might suppose that a body has alternative motions up its sleeve, by means of which it can introduce motions that shift the course of the plenum. Cavendish would argue that any such motions that a body has up its sleeve are among the body's actual motions and that the body cannot but behave in the light of these in conjunction with the actual motions of the bodies that surround it. Nature still "works as she pleaseth," but not in virtue of possessing a libertarian two-way ability to do otherwise.

As we have seen, Cavendish supposes that there is no irregularity in nature and that there is a necessary connection between a cause and its effects. At any given moment, the motions of the contiguous bodies of the plenum are

the antecedents of the motions that come next, and bodies cannot behave otherwise than they do. She writes,

> all the motions are so ordered by Natures wisdom, as not any thing in Nature can be otherwise, unless by a Supernatural Command and Power of God…[7]
>
> each thing is and must be as Nature made it.[8]

Nonetheless, bodies work as they "pleaseth," and have "liberty."[9] For Cavendish, what it is for a body to be free is for it to move in accord with its interests and goals, without interference.[10] Most configurations are free, at least for the bulk of their duration: the bodies that compose them work in concert with each other to maintain a quantity of motion, and the bodies that surround a configuration tend to be more or less accomodating.[11] She writes,

> the General actions of Nature are both life and knowledg, which are the architects of all Creatures, and know better how to frame all kinds and sorts of Creatures then man can conceive; and the several parts of Matter have a more easie way of communication,… in all which is a mutual agreement without noise or trouble.[12]
>
> Nature's Creating, Generating and Producing actions are by an easie connexion of parts to parts, without Counterbuffs, Joggs and Jolts, producing a particular figure by degrees, and in order and method, as humane sense and reason may well perceive…[13]

There is a specific kind of freedom that Cavendish takes bodies to possess, and there is a kind of freedom that her system rules out. Bodies are never free in the sense of having a libertarian two-way power to do otherwise,[14] but often they are free in the sense of working toward goals and interests seamlessly and without obstacle. A constant refrain throughout the Cavendish corpus is that bodies are free, but when she takes the further step of cashing out what a being's freedom consists in, she speaks in terms of its agility and pliancy, and in terms of its ability to move as it pleases. She writes,

> the spirits work more easie, at least more freely, when they are not taskt, than when they are like Apprentices or Journey-men; and will be many times more active when they take or have liberty to play, or to follow their own Appetites, than when they work (as I said) by constraint, and for necessity…[15]
>
> Nature is full of variety of motions or actions, so are her parts; or else she could not be said self-moving, if she were bound to certain actions, and had not liberty to move as she pleases…[16]

> THE Self-moving Parts of Nature seem to be of two sorts, or degrees; one being purer, and so more agil and free than the other; which (in my opinion) are the Rational Parts of Nature. The other sort is not so pure; and are the Architectonical Parts, which are the Labouring Parts, bearing the grosser Materials about them, which are the Inanimate Parts… Whereas the Rational are so pure, that they cannot be so strong Labourers, as to move with Burdens of Inanimate Parts, but move freely without Burdens…[17]
>
> the Rational is more loose, free, and so more agil than the Sensitive…[18]
>
> had not the Sensitive Parts incumbrances, they would be, in a degree, as agil, and as free as the Rational.[19]

The configurations within the plenum are surrounded by further configurations, and these are striving to maintain a quantity of motion as well. Sometimes bodies work at cross-purposes, but sometimes a configuration recognizes that the best way for it to preserve its quantity of motion is to work in synchrony with the bodies on which it depends. A configuration is unfree when it is overpowered and its motions are forcibly redirected:

> although Nature is free, and all her parts self-moving; yet not every part is free to move as it pleases, by reason some parts over-power others, either through number, strength, slight, shape, opportunity, or the like advantages…[20]

For Cavendish, a body is free when it has the requisite motions to behave in accord with its goals, and surrounding bodies do not impede it.

There are two passages though in which Cavendish appears to suggest that creatures – especially human beings – have a libertarian ability to do otherwise. Many other passages in the corpus are certainly *consistent* with the espousal of a libertarian conception of freedom – the passages in which Cavendish says that bodies are free, for example – but these are not evidence of a libertarian position unless we assume in advance that libertarian freedom is the only sort of freedom that Cavendish could have in mind, and unless we ignore the passages in which she is more deterministic. Passages in which Cavendish does suggest the existence of a contra-causal power by which things can "do otherwise" are few and far between. In one, she writes,

> When, contradicting the opinion of Mr. *Hobbes* concerning voluntary motions, who says, *That voluntary motions, as going, speaking, moving our lips, depend upon a precedent thought of whither, which way, and what, &c.* I answer, that it implies a contradiction, to call them Voluntary Motions, and yet say they depend on our imagination; for

if the imagination draws them this or that way, how can they be voluntary? My meaning is not as if those actions were not self-actions, nor as if there were no voluntary actions at all; for to make a balance between Natures actions, there are voluntary, as well as occasioned actions, both in sense and reason; but because Mr *Hobbs* says, that those actions are depending upon Imagination and Fancy, and that Imagination is the first internal beginning of them, which sets them a going, as the prime wheel of a Watch does the rest: My opinion is, that after this rate they cannot properly be called voluntary, but are rather necessitated, at least occasioned by the Mind or Fancy…[21]

Here Cavendish is stating that an idea has not formed voluntarily if it is a result of the motions of the bodies that surround it. She allows that the formation of *some* ideas is voluntary, and so she might appear to be suggesting that in many cases the bodies that enter into an idea have a libertarian ability to enter into many different possible idea formations, even if all conditions are entirely the same. The passage does not suggest anything of the kind, however, if we hold constant that for Cavendish voluntariness is a matter of self-motion:

> by voluntary actions I understand self-actions; that is, such actions whose principle of motion is within themselves, and doth not proceed from such an exterior Agent…[22]

The formation of a thought is voluntary so long as the thought forms in accord with its own motions, but that does not mean that those motions could be otherwise, or that the bodies that compose an idea could tap into alternative possible motions and behave differently. Cavendish says that a thought is not voluntary if it is the result of the behavior of the bodies that surround it, but that is because she supposes that a central part of what it is for thought to be voluntary is for it to be due to its *own* motions.

In a second (and similar) passage, Cavendish speaks of the way in which a thought is sometimes dependent on the thoughts that surround it, and sometimes not. If so, she would appear to hold that we are in possession of a spontaneous power by which thoughts do and do not come to us:

> And as for his *Train of Thoughts,* I must confess, that Thoughts for the most part are made orderly, but yet they do not follow each other like Geese, for surely, man has sometimes very different thoughts; as for Example, a man sometime is very sad for the death of his Friend, and thinks of his own death, and immediately thinks of a wanton Mistress, which later thought, surely, the thought of Death did not draw in; wherefore, though some thought may be the Ring-leader of others, yet many are made without leaders.[23]

This passage does not hint of libertarian freedom either, at least not in the context of the larger Cavendish corpus. She has already argued that the same cause always leads to the same effect, and so the point that she is making when she highlights that some thoughts are "ringleaders" is that they form by the internal motions of the bodies that compose them. Perhaps they have an impact on how surrounding bodies enter into ideas as well.

Freedom, agency, and the interference of the plenum

Cavendish supposes that the freedom of a body is a function of its ability to achieve its goals without interference. A being is more free to the extent that it is surrounded by beings that work in concert with it, and it is less free if it encounters resistance in achieving its goals or if its motions are forcibly redirected. In the plenum, some configurations are fortunate to be surrounded by bodies that are supportive; others, not so much. A being that is surrounded by bodies that are amenable to its goals is much more free to achieve them than a being that is surrounded by bodies that are poised to get in the way. Cavendish applies this view very widely, but she focuses specific attention on the ways in which the plenum stands toward the goals of individual men and women. She will speak for example of her own prospects of being a (female) philosopher or scientist, when part of what it is to be one of these is to have readers, listeners, correspondents, and collaborators, and also credibility and authority. Cavendish supposes that as a woman she will not have most of these and that many pursuits will be denied her:

> since all Heroick Actions, Publick Employments, as well Civil as Military, and Eloquent Pleadings, are deni'd my Sex in this Age, I may be excused for writing so much…[24]

One of the reasons that Cavendish writes so much is to find an outlet for energies that she would prefer to direct elsewhere. She is not free to be a scientist or military general or philosopher or constable or shop-owner if what it is to be one of these is to be in an environment in which her audience would be willing to engage with her as such.

A vexed question in the literature is whether or not Cavendish holds that women are inherently inferior to men or if differences in the skills and achievements of men and women are due to more circumstantial factors.[25] Cavendish had to notice that she herself was extremely smart and capable, and as we will see there are passages in the corpus in which she speaks highly of female capabilities more generally. But there are also passages like this:

> we Complain of Men, as if they were our Enemies, when as we could not possibly Live without them: which shews, we are as Ungratefull, as Inconstant; But we have more Reason to Murmur against Nature

than against Men, who hath made Men more Ingenious, Witty, and Wife than Women, more Strong, Industrious, and Laborious than Women, for Women are Witless, and Strengthless, and Unprofitable Creatures, did they not Bear Children. Wherefore, let us Love men, Praise men, and Pray for men, for without Men we should be the most Miserable Creatures that Nature Hath, or Could make.[26]

since all Terrestrial Imitations ought to Ascend to the Better, and not to Descend to the Worse, Women ought to Imitate Men, as being a Degree in Nature more Perfect, than they Themselves…[27]

These and similar passages are unambiguous on their face, but they are not direct evidence of Cavendish's own thinking: they appear in *Orations of Divers Sorts*, plays, and other texts in which Cavendish presents different viewpoints from multiple perspectives.[28] To trust such passages, we would need to isolate corroborating passages that appear in a less literary context and in which it is clear that Cavendish is expressing her own position.

One text in which she is expressing her own opinion is her philosophical treatise, *Philosophical and Physical Opinions*. In the preface, Cavendish requests of her scholarly readership – those "of the two universities" – that they bracket their bias against women as they read through the work. She states that females and males have similar cognitive capacities, but that men have seen to it that women do not develop these:

I Here present the sum of my works, not that I think wise School-men, and industrious, laborious students should value my book for any worth, but to receive it without a scorn, for the good incouragement of our sex, lest in time we should grow irrational as idiots, by the… despisements of the masculine sex to the effeminate, thinking it impossible we should have either learning or understanding, wit or judgement, as if we had not rational souls as well as men, and we out of a custom of dejectednesse think so too, which makes us quit all industry towards profitable knowledge being imployed onely in looe, and pettie imployments, which takes away not onely our abilities towards arts, but higher capacities in speculations, so as we are become like worms that onely live in the dull earth of ignorance, winding our selves sometimes out, by the help of some refreshing rain of good educations which seldom is given us; for we are kept like birds in cages to hop up and down in our houses, not sufferd to fly abroad to see the several changes of fortune, and the various humors, ordained and created by nature; thus wanting the experiences of nature, we must needs want the understanding and knowledge and so consequently prudence, and invention of men: thus by an opinion, which I hope is but an erronious one in men, we are shut out of all power, and

> Authority by reason we are never imployed either in civil nor marshall affaires, our counsels are despised, and laught at, the best of our actions are troden down with scorn, by the over-weaning conceit men have of themselves and through a dispisement of us.[29]

Cavendish could not be more clear in this passage: women are not able to be effective in civic employments and many other pursuits, but only because men make sure that they do not acquire the requisite skills. Women do not acquire the requisite skills, and there is an equally important sense in which they *cannot* acquire the requisite skills, for example as a civic leader. Even if they "did," most human beings would not take seriously their agency and authority, and so they would not have acquired those skills after all. Cavendish will argue that whether or not a woman is a philosopher or judge or governor or general is in large part a function of the situation of the bodies in the surrounding plenum. By her own internal motions, a woman might attempt to argue in court, or to give orders of a civic or military nature, but as a rule she would not be successful; she would not be properly identified as a judge or governor or general. She could identify herself as one of these, but she would be identified right back as something else instead. Cavendish does not suppose that there is anything intrinsic to the configuration of a male or female body that makes a male or female more or less cognitively capable, and if the plenum were differently configured, women would be more free to navigate the bodies that surround them in pursuit of ends that are normally the province of men. The plenum is *not* differently configured, but the properties of a configuration are due in part to the motions of the bodies that compose it and in part to the motions of the bodies that surround it.

There is at least one passage that is in Cavendish's own voice and that appears to be a diatribe on the inferiority of women. The extended passage appears in an introductory section of *World's Olio* – published in 1655, the same year as *Philosophical and Physical Opinions.* The passage does not reflect an early view that Cavendish finally modified – unless she changed her view in 1655, dramatically and all at once – and hopefully she is not just contradicting herself. The passage from *World's Olio* is over-the-top in its misogyny. Cavendish rehearses the complaint of "our Sex" that inequalities are due to masculine enslavement, and distances herself from it completely:

> True it is, our Sex make great complaints, that men from their first Creation usurped a Supremacy to themselves, although we were made equal by Nature, which Tyrannical Goverment they have kept ever since, so that we could never come to be free, but rather more and more enslaved, using us either like Children, Fools, or Subjects, that is, to flatter or threaten us, to allure or force us to obey, and will not let us divide the World equally with them, as to Govern and Command, to direct and Dispose as they do; which Slavery hath so

dejected our spirits, as we are become so stupid, that Beasts are but a Degree below us, and Men use us but a Degree above Beasts; whereas in Nature we have as clear an understanding as Men, if we were bredin Schools to mature our Brains, and to manure our Understandings, that we might bring forth the Fruits of Knowledge. But to speak truth, Men have great Reason not to let us in to their Governments, for there is great difference betwixt the Masculine Brain and the Feminine, the Masculine Strength and the Feminine; For could we choose out of the World two of the ablest Brain and strongest Body of each Sex, there would be great difference in the Understanding and Strength; for Nature hath made Mans Body more able to endure Labour, and Mans Brain more clear to understand and contrive than Womans; and as great a difference there is between them, as there is between the longest and strongest Willow, compared to the strongest an largest Oak; though they are both Trees, yet the Willow is but a yielding Vegetable, not fit nor proper to build Houses and Ships, as the Oak, whose strength can grapple with the greatest Winds, and plough the Furrows in the Deep; it is true, the Willows may make fine Arbours and Bowers, winding and twisting its wreathy stalks about, to make a Shadow to eclips the Light; or as a light Shield to keep off the sharp Arrows of the Sun, which cannot wound deep, because they fly far before they touch the Earth; or Men and Women may be compared to the Black-Birds, where the Hen can never sing with so strong and loud a Voice, nor so clear and perfect Notes as the Cock; her Breast is not made with that strength to strain so high; even so Women can never have so strong Judgment nor clear Understanding nor so perfect Rhetorick, to speak Orations with that Eloquence, as to Perswade so Forcibly, to Command so Powerfully, to Entice so Subtilly, and to Insinuate so Gently and Softly into the Souls of men; Or they may be compared to the Sun and Moon, according to the discription in the Holy Writ, which saith, *God made two great Lights, the one to Rule the Day, the other the Night.* So Man is made to Govern Common Wealths, and Women their privat Families. And we find by experience, that the Sun is more Dry, Hot, Active, and Powerfull every way than the Moon; besides, the Sun is of a more strong and ruddier Complexion than the Moon; for we find she is Pale and Wan, Cold, Moist and Slow in all her operations; and if it be as philosophers hold, that the Moon hath no Light but what it borrows from the Sun, so Women have no strength nor light of Understanding, but what is given them from Men; this is the Reason why we are not Mathematicians, Arithmeticians, Logicians, Geometricians, Cosmographers, and the like; This is the Reason we are not Witty Poets, Eloquent Orators, Subtill Schoolmen, Substracting Chimists, Rare Musicians, Curious Limners; This is the reason we

> are not Navigators, Architectures, Exact Surveyers, Inventive Artizans; This is the reason why we are not Skilfull Souldiers, Politick Statists, Dispatchfull Secretaries, or Conquering Caeasars; but our Governments would be weak, had we not Masculine spirits and Counsellors to advise us.[30]

Cavendish makes a number of claims here. One is that men are wise not to include women in the affairs of government. Another is that the reason why women are not mathematicians, witty poets, inventive artisans, or skillful soldiers is that women do not have the mind for these. Another is that "Women have no strength nor light of Understanding, but what is given them from Men." This latter claim is really over the top: if women did not have contact with men, they would have no "light of Understanding." Perhaps Cavendish intends all of these claims to be taken seriously, but there is reason to believe that she is in fact being ironic.

What she had said in the note at the start of *Philosophical and Physical Opinions* is that women are unsuccessful in civic, military, and intellectual affairs because they are systematically excluded from these and because they are not entrusted with the requisite agency and authority. She writes elsewhere,

> as for Learning, that I am not versed in it, no body, I hope, will blame me for it, since it is sufficiently known, that our Sex is not bread up to it, as being not suffer'd to be instructed in Schools and Vniversities; I will not say, but many of our Sex may have as much wit, and be capable of Learning as well as Men; but since they want Instructions, it is not possible they should attain to it; for Learning is Artificial, but Wit is Natural.[31]

> I speak of Strength, to shew that Women that are bred, tender, idle and ignorant (as I have been) are not likely to have much Wit; nor is it fit they should be bred up to Masculine Actions, yet it were very fit and requisit they should be bred up to Masculine Understandings…[32]

> you are pleased to desire my opinion of a very difficult and intricate argument in Natural Philosophy, to wit, of Generation, or Natural Production. I must beg leave to tell you, first, that some (though *foolishly*) believe, it is not fit for Women to argue upon so subtil a Mystery…[33]

Nor does Cavendish think that women are incapable of being good political leaders. She notes that the world has seen effective females already in fact:

> There will be many Heroick Women in some Ages, in others very Propheticall; in some Ages very pious, and devout: For our Sex is wonderfully addicted to the spirits. But this Age hath produced many effeminate Writers, as well as Preachers, and many effeminate Rulers,

as well as Actors. And if it be an Age when the effeminate spirits rule, as most visible they doe in every Kingdome, let us take the advantage, and make the best of our time, for feare their reigne should not last long; whether it be in the Amazonian Government, or in the Politick Common-wealth, or in flourishing Monarchy, or in Schooles of Divinity, or in Lectures of Philosophy, or in witty Poetry, or any thing that may bring honour to our Sex: for they are poore, dejected spirits, that are not ambitious of Fame.[34]

This latter passage is from *Poems and Fancies* (1653) and is very much in line with the similar passage in *Philosophical and Physical Opinions* (1655). In the *World's Olio* passage (1655), Cavendish is over the top in her claims about the innate and wholesale incompetence of females. She appears to be stating precisely the opposite of what she believes; or more precisely, she is expressing what she does believe, but by way of representing the extreme of the contrary position. As we have seen already, Cavendish was an eccentric and playful individual – for example, wearing masculine clothes to shine a light on the norm that only men can be writers or philosophers. She appears to be proceeding similarly in her *World's Olio* diatribe on female ineptitude and incapacity. As we will see in the remainder of this chapter, a significant portion of Cavendish's fiction is a commentary on the extent to which male and female skills and capacities are a function of attitudes and behaviors that are pervasive throughout the plenum. Cavendish uses fiction to make the commentary especially vivid – crafting alternative possible worlds in which the (alternatively configured) plenum makes possible the existence of female military leaders, female scientists, female philosophers. She is not thereby suggesting that she takes the prospect of a competent woman to be fictional.[35] Instead, she uses fiction to construct alternative worlds in which women achieve success at pursuits that the current plenum tends to block from them. With the construction of these worlds, Cavendish is attempting to illustrate her view that the freedom of a being to succeed at its goals is partly a matter of its own internal motions but largely a matter of the receptivity of the bodies that surround it. She is not arguing that women have obstacles and men do not; nor is she arguing that men, because they face fewer obstacles, are free-standing. All bodies are immersed in the plenum. It serves up obstacles to women, and generally speaking provides support and backup to men.

Cavendish speaks for example of her own attempts to become an intellectual in the seventeenth-century plenum of which she is a part. Whereas Descartes, Hobbes, and other male philosophers of the seventeenth century had interlocutors, and could come to have public renown, a female philosopher would be unlikely to have correspondents or readers, and her attempted interventions would be unlikely to have an impact. Cavendish writes for example that

> wise learned men think it a discredit to discourse learnedly to ignorant women, and many learned men speak most commonly to women,

> as women do to children nonsense, as thinking they understand not any thing…[36]

Part of the problem, Cavendish has stated, is that many of the women of her time have not been properly trained or educated. However, a woman who *is* intelligent and educated would not register as such in the mind of a person committed to the principle that women are inherently lesser. Cavendish uses her fiction to expose how that principle is at play in the actual world. She also uses her fiction to show how the possibilities for women are different in worlds in which the principle is not as operative.

First, we consider her discussion of an alternative world that features the belief that women are unfit to do philosophy, but in which that belief is given up quickly – unusually quickly – in the face of evidence to the contrary. In the scene, three male philosophers are about to be introduced to a philosophical female, Sanspareille:

> 1 PHILOSOPHER: Come my learned brothers, are we come now to hear a girle to read lectures of naturall Philosophy to teach us? Are all our studyes come to this?
>
> 2 PHILOSOPHER: Her doting father is to blame, he should be punished for this great affront, to us that's learned men.
>
> 3 PHILOSOPHER: Philosophers should be men of yeares, with grave and Auster lookes, whose countenances should like rigid lawes affright men from vanityes; with long wise beards, sprinkled with gray, that every hair might teach, the bare young Chins for to obey. And every sentence to be delivered like the Law, in flames and lightning, and flashes with great thunder, a foolish girle to offer for to read: O times! O manners!
>
> 1 PHILOSOPHER: Beauty and favour and tender years, a female which nature hath denyed hair on her Chin, so smooth her brow, as not to admit one Philosophycall wrinckle, and she to teach, a Monster tis in Nature; since Nature hath denyed that sex that fortitude of brain.[37]

The men in the scene have many of the beliefs and expectations of the men and women of Cavendish's time, and we would expect that Sanspareille's prospects as an intellectual would be significantly constrained. The people of Cavendish's time would be unlikely to take Sanspareille seriously as a philosopher, and if she did somehow reveal herself to be smart and incisive, the most obvious conclusion to draw would be that she is behaving contrary to her nature, as some kind of mutation. In the alternative world that Cavendish constructs, however, things unfold differently – at least in the end. Sanspareille finally enters the scene, and the first philosopher remarks, "Sir, we perceive now, you have invited us to feast our eyes, not our eares."[38] They listen to Sanspareille as she expresses her philosophical views, and we encounter a fictional world indeed. The three philosophers react very differently to her

than philosophers tended to react to prospective female intellectuals in the actual-world seventeenth century. The world that Cavendish has fashioned is a hybrid of that world and a possible world that is quite distant:

> She goeth out.
>
> The whilst the Audience holds up their hands in admiration.
>
> 1 PHILOSOPHER: Now you have heard her, what do you say?
>
> 2 PHILOSOPHER: I say let us go home and make a funerall pile of our bookes, that are Philosophy, burn them to Ashes, that none may file as Phenix like out of that dust…
>
> 1 PHILOSOPHER: No, no, we will all now send for Barbers, and in our great Philosophies despair, shave of our reverend beards, as excrements, which once did make us all esteemed as wife, and stuff boyes foot-balls with them.
>
> 2 PHILOSOPHER: Nature, thou dost us wrong, and art too prodigall to the effeminate Sex; but I forgive thee, for thou art a she, dame Nature thou art; but never shewed thy malice untill now, what shall we do?[39]

The philosophers give Sanspareille a fair hearing, and they quickly abandon their view that only a (bearded) man has what it takes to be a philosopher. The plenum of "Youths Glory, and Deaths Banquet" includes familiar beliefs about a woman's essential nature, but at the same time it is uncharacteristically flexible and pliant.

The world of Sanspareille is distant indeed. Later in the play, two men encounter her in all of her intelligence and charm; they conclude that males are inherently lesser than females, and one of the men reports that he wishes that he were a female instead. The exchange is striking:

> 1 GENTLEMAN: Certainly, Nature was never so bountifull, to any of that Sex, as she hath been to her.
>
> 2 GENTLEMAN: The truth is, she favours the Female Sex, for the most part, more than she doth the Masculine Sex; because she is of the Female kind herself.
>
> 1 GENTLEMAN: Faith, I could wish that I never wisht before.
>
> 2 GENTLEMAN: What wish is that?
>
> 1 GENTLEMAN: Why, I wish, I were a Woman, but such a Woman as the Lady *Sanspareille.*[40]

The scene here is partly comical, no doubt, if it is ridiculous to suppose that men would respond in this way, and if it is equally ridiculous that they respond as they do in fact. But the scene is also dark. It is comical and outlandish because of the degree to which it is unexpected, but it also reflects that women like Cavendish are fully ensconced in an environment that works to keep them from the occupation of scientist, philosopher, writer, judge, soldier,

doctor. A woman might make a decision to be any of these, and exert a lot of energy in the effort, but whether or not she is successful is a function of more than just her decisions. It is also a function of the corrosion in the interface between her decisions and the world.

Cavendish holds that the apparent intellectual limitations of women are due in part to the way in which their intellectual capacities are willfully overlooked. Generally speaking, women will not be given an opportunity to speak about intellectual matters. If they *are* given the opportunity, and seize it, they will not be heard. In an introductory skit that opens her collection of plays, Cavendish shines light on a pattern that is pervasive within the plenum and that has implications for how her plays (and other work) will be received. She writes,

> 2 GENTLEMAN: … [A] womans wit is too weak and too conceived to write a Play.
> 1 GENTLEMAN: But if a woman hath wit, or can write a good Play, what will you say then.
> 2 GENTLEMAN: Why, I will say no body will believe it, for if it be good, they will think she did not write it, or at least say she did not, besides the very being a woman condemnes it, were it never so excellent and care, for men will not allow women to have wit, or we men to have reason, for if we allow them wit, we shall lose our prehemency.[41]

Whether or not a person becomes a scientist or writer or philosopher or merchant is in part a function of the decisions that the person makes, Cavendish would of course allow, but she is arguing that it is also in part a function of how their environment receives them. In the actual-world seventeenth century, there are a number of contexts in which women will not be received, or be endowed with agency and authority, and if they attempt to secure a space of their own they are surrounded by the plenum yet again. In "The Female Academy," Cavendish depicts a situation in which women attempt to create a retreat from the constraints of their life with men – an academy at which they can exercise their intellectual and other capacities. But the men will not have it:

> GENTLEMAN SPEAKER: Those women that retire themselves from the Company of men, are very ungratefull; as, first to Nature, because she made them only for breed; next to men who are their Defenders, Protectors, their Nourishers, their Maintainers; their Instructers, their Delighters, their Admirers, their Lovers and Deisiers…[42]
> GENTLEMAN SPEAKER: IT were too tedious to recite the several humours of the female Sex; their scornfull Pride, their obstinate Retirednesse, their reserved Coynesse, their facil Inconstancy, by which they become the most useless, and most unprofitable Creatures that nature hath made…[43]

Soon enough, the men of the larger community band together to upend the female academy. They surround the building; they play trumpets until the

women are no longer able to hear each other talk. The men do this out of the belief that it is not in the nature of women to engage in intellectual activity or be independent, but of course what the women have exhibited is that that is not female nature at all.[44] The play resumes:

> Enter three Gentlemen.
>
> 1 GENT: The Academy of Ladies take no notice of the Academy of Men, nor seem to consider what the men say, for they go on their own serious way, and edifying discourses.
>
> 2 GENT: At which the men are so angry, as they have sworn to leave off talking, and instead thereof, they will sound Trumpets so loud, when the Ladys are in their discoursings, as they shall not hear themselves speak; by which means they hope to draw them out of their Cloyster, as they swarm Bees; for as Bees gather together at the sound of a Basin, Kettle, or such like metled thing: so they will disperse that swarm of Academical Ladies, with the sound of brazen Trumpets.[45]
>
> MATRON: Gentlemen, the Ladies of the Academy have sent me unto you, to know the Reason or Cause that you will not let them rest in quiet, or suffer them to live in peace, but disturb them in both, by a confused noise of Trumpets, which you uncivilly and discourteously blow at their Grate and Gates.
>
> 1 GENT: The cause is, that they will not permit us to come into their Company, but have barricadoed their Gats against us, and have incloystred themselves from us; besides, it is a dangerous example for all the rest of their Sex; for if all women should take a toy in their heads to incloyster themselves, there would be none left out to breed on.[46]

The women are attempting to secure a region of the plenum and make it exempt from the pressures that are working to bring them down. However, the forces in question are powerful, and they have goals of their own.

Cavendish herself was relatively blessed as a female in seventeenth-century England, as she herself would admit.[47] She had ample time to read, write, and publish, and have intellectual conversations with the men in her family circle, but her options were still quite limited. She recognized that she would not be a prominent writer or philosopher in her own age, but maybe in a future age in which the corrosion in the interface between a woman's decisions and the world has been wiped clean:

> For my part I do, for I verily beleeve, that ignorance and present envie will slight my book; yet I make no question, when envy is worn out by time, but understanding will remember me in after ages, when I am changed from this life; but I had rather live in a general remembrance, then in a particular life.[48]

Cavendish does not think that the limitations of women are in any way intrinsic to their biology. She thinks that there are conceivable eras in which women succeed at accomplishing a much wider range of goals, so long as the world that surrounds them is differently configured. The plenum in such an era would need to contain individuals who take seriously that a woman could be a philosopher, a scientist, a barrister, a doctor, a business proprietor, a pilot, a mathematician, an engineer. But a small number of these individuals would not be enough. A sympathetic individual in a largely hostile environment would be unlikely to tout Cavendish's philosophical work or publicly engage with her about it; they would be part of the plenum also, and would be received accordingly.

Imaginary worlds and increased maneuverability

Cavendish crafts alternative possible worlds to highlight how the possibilities for a given individual are in large part a function of the plenum in which they are immersed. In another text, *The description of a new world, called the blazing-world*, the main character is transported to a different planet and is pleased to find that its inhabitants do not automatically assume that women and men are differently competent. She interacts with these inhabitants and finds that they respect her authority: they are excited to discuss science, politics, and philosophy with her, and eventually she becomes their Empress. Back on earth, human beings would tend to stand differently toward a woman, but the worm-, bear-, bird-, fish-, and ape-men of the Blazing World have extensive conversations with the Empress about the cosmos, chemistry, mathematics, and the nature of mind and matter.[49] At one point in these conversations, the Empress attempts to seek counsel from "the soul of one of the most famous modern writers, as either of Galileo, Gassendus, Descartes, Helmont, Hobbes, H. More, etc."[50] She is informed, however, that "they would scorn to be scribes to a woman."[51] The atmosphere of the Blazing World is indeed markedly different from the atmosphere on earth.[52] Whether or not a person is a scientist or philosopher depends in part on what she does on her own end, but not fully, and not mostly.[53] Cavendish was not able to engage a correspondence with Hobbes and other philosophical contemporaries, for example. Her *Philosophical Letters* is a fictional correspondence in which she takes issue with their views through an intermediary.

Perhaps the most telling alternative world that Cavendish presents to us is the world of *Bell in Campo*. Early in the play, women are described in very traditional terms. They are delicate, and they are in need of protection:

> But Nature hath made women like China, or Pursleyn, they must be used gently, and kept warily, or they will break and fall on Deaths head: besides, the inconveniencies in an Army are so many, as put patience her self out of humour; besides, there is such inconveniences as modesty cannot allow of.[54]

Some of the female characters in the play take issue with this sort of description, however, and indeed the general's wife – Lady Victoria – demands that she be allowed to accompany the men on the battlefield. The general gives in, and word spreads quickly among the community of soldiers. The consensus is that women and battle do not mix:

> The Lord *General* was accounted a discreet and wise man, but he shows but little wisdome in this action of carrying his wife along with him to the Wars, to be a Clog at his heels, a Chain to his hands, an Incumberance in his march, obstruction in his way; for she will be always puling and sick, and whining, and crying, and tir'd, …and if her Dog should be left in any place, as being forgotten, all the whole Army must make a halt whilst the Dog is fetcht…[55]

Still, some of the general's commanders decide that whatever they might think about the appropriateness of the general's decision, they will bring their wives along as well, as a show of allegiance and support. One of these, Captain Whiffell, invites his own wife, but she responds that she has womanly work to do instead:

> I will be *Generalissimo* my self at home, and distribute my Colours to be carried in the Hats of those that will fight in my quarrel, to keep or gain the Victory of my favour and love.[56]

Cavendish does not suppose that it is only the expectations of men that put constraints on the kinds of roles for which women are regarded as suitable. Here we might start thinking about the social circles in which Captain Whiffell's wife circulates, the prevalence of these circles in certain parts of seventeenth-century England, and their receptivity to the notion of a woman on the front line.

A number of the wives accompany their husbands to the battlefield, but as soon as the fighting commences, they are removed to a distance for their own safety. The women become furious, especially Lady Victoria. She gives a rousing speech to the effect that the women should join in the fight themselves:

> Most Heroical Spirits of most chast and loving Wives, Mistrisses, Sisters, Children or Friends, I know you came not from your several Houses and homes into this Army meerly to enjoy your Husbands, Lovers, Parents and Friends in their safe and secure Garrisons, or only to share of their troublesome and tedious marches, but to venture also in their dangerous and cruell Battels, to run their Fortunes, and to force Destiny to joyn you to their Periods; but the Masculine Sex hath separated us, and cast us out of their Companyes, either out of their loving care and desire of preserving our lives and liberties, lest

> we might be distroyed in their confusions, or taken Prisoners in their loss, or else it must be out of jealousy we should Eclipse the fame of their valours with the splendor of our constancy; and if it be Love, let us never give the preheminence, for then we should lose that Prerogative that belongs to the Crown of our Sex; and if it be thorough Jealous mistrust of their Fame, it were poor for us to submit and quit that unto men, that men will not unto us, for Fame makes us like the Gods, to live for ever; besides, those women that have staid at home will laugh at us in our return, and their effeminate Lovers and Carpet Knights, that Cowardly and Luxuriously Coin excuses to keep and stay them from the Wars, will make Lampons of us for them to sing of our disgrace, saying, our Husbands, Lovers, and Friends were so weary of us, as they were forced to take that pretence of affectionate love to be rid of our Companyes; wherefore if you will take my advise, let us return, and force those that sent us away to consent that we shall be partakers with them…[57]

The women agree in unison that they will fight, and they select Lady Victoria as their generalless. They will take seriously her authority as a military commander, and they will join her in a fight to show that men and women should be equal partners in ruling the world. The scene is quite compelling:

> ALL THE WOMEN: Propound the way, and set the Rules, and we will walk in the one, and keep strictly to the other.
>
> LADY VICTORIA: Then thus, we have a Body of about five or six thousand women, which came along with some thirty thousand men, but since we came, we are not only thought unusefull, but troublesome, which is the reason we were sent away, for the Masculine Sex is of an opinion we are only fit to breed and bring forth Children, but otherwise a trouble in a Common-wealth, for though we encrease the Common-wealth by our breed, we encomber it by our weakness, as they think, as by our incapacities, as having no ingenuity for Inventions, nor subtill wit for Politicians; nor prudence for direction, nor industry for execution; nor patience for opportunity, nor judgment for Counsellers, nor secrecy for trust; nor method to keep peace, nor courage to make War, nor strength to defend our selves or Country, or to assault an Enemy; also that we have not the wisdome to govern a Common-wealth, and that we are too partial to sit in the Seat of Justice, and too pittifull to execute rigorous Authority when it is needfull, and the reason of these erronious opinions of the Masculine Sex to the Effeminate, is, that our Bodyes seem weak, being delicate and beautifull, and our minds seem fearfull, being compassionate and gentle natured, but if we were both weak and fearfull, as they imagine us to be, yet custome which is a second Nature will encourage the one and strengthen the other, and had our educations been answerable to theirs,

> we might have proved as good Souldiers and Privy Counsellers, Rulers and Commanders, Navigators and Architectors, and as learned Sholars both in Arts and Sciences, as men are…[58]

Earlier we had considered a passage in which Cavendish suggested that the reason why women are not soldiers or architects or geometers or leaders – and the reason why they can do hardly anything at all – is that they are essentially inferior to men and lack the capacity for sophisticated skillful behavior. Her language and tone were over-the-top in that passage, making women an exception to pretty much every other creature in nature. In the light of passages in her single-authored philosophical texts, she was clearly being ironic. A large part of the reason that women are not architects or soldiers or leaders, according to Cavendish, is that there is corrosion in the interface between female agents and their surrounding world. She says as much in her own voice, and she makes the same point by way of the characters in her fiction. One might object that since the fictional scenarios that Cavendish presents are *fictional*, they do not bear on reality: perhaps she is suggesting that it is a fiction that women can be so accomplished, and that in reality women are inherently inferior.[59] However, Cavendish makes clear in her non-fiction that differences in achievement between men and women are due in large part to the way that the plenum works (or does not work) on their behalf. Women are still *women* in Cavendish's alternative possible worlds – they have not acquired an alternative nature – and the plenum makes room for them to do what they cannot do on seventeenth-century earth.

Lady Victoria continues in her diatribe. She takes issue with those aspects of the plenum that put constraints on a woman's skill and potential:

> wherefore if we would but accustome our selves we may do such actions, as may gain us such a reputation, as men might change their opinions, insomuch as to believe we are fit to be Copartners in their Governments, and to help to rule the World, where now we are kept as Slaves forced to obey; wherefore let us make our selves free, either by force, merit, or love, and in order, let us practise and endeavour, and take that which Fortune shall profer unto us, let us practise I say, and make these Fields as Schools of Martial Arts and Sciences, so shall we become learned in their disciplines of War, and if you please to make me your Tutoress, and so your Generalless, I shall take the power and command from your election and Authority, otherwise I shall most willingly, humbly, and obediently submit to those whom you shall choose.[60]

The would-be female soldiers decide that they have also had enough. They will follow their leader into a difficult and bloody battle, with unquestioned respect for her authority:

ALL THE WOMEN: You shall be our Generalless, our Instructeress, Ruler and Commanderess, and we will every one in particular, swear to obey all your Commands, to submit and yield to your punishments, to strive and endeavour to merit your rewards.[61]

As *Bell in Campo* unfolds, we encounter a possible world that is in some ways nearby but that is in many ways remote. Lady Victoria directs her soldiers to gather additional women – any who might be in search of a new and more empowered life. They will seize guns and weapons and then march toward the enemy in an effort to crush it:

> Now we are resolved to put our selves into a Warlike body, our greatest difficulty will be to get Arms; but if you will take my advise we may be furnished with those necessaries, as thus, the Garrison we are to enter is full of Arms and Amunition, and few men to guard them, for… most of the Souldiers are drawn out to strengthen the Generals Army, and to fight in the battle… [W]e may plunder all their Horses, and victual our selves out of their Granaties; besides, I make no question but our Army will increase numerously by those women that will adhere to our party, either out of private and home discontents, or for honour and fame, or for the love of change, and as it were a new course of life…[62]

The women agree – at the request of the men[63] – that they will not intervene as long as the men are still able to defend themselves, but the tables soon begin to turn. The male general – Lady Victoria's husband – becomes ill and weak, and the females join the fight straightaway. The generalless says to her army,

> Noble Heroickesses, I have intelligence that the Army of Reformations begins to flag, wherefore now or never is the time to prove the courage of our Sex, to get liberty and freedome from the Female Slavery, and to make our selves equal with men: for shall Men only sit in Honours chair, and Women stand as waiters by? shall only Men in Triumphant Chariots ride, and Women run as Captives by? shall only men be Conquerors, and women Slaves?[64]

Her soldiers respond, "Fear us not, fear us not, we dare and will follow you wheresoever and to what you dare or will lead us, be it through the jawes of Death."[65]

In the end, Lady Victoria and her soldiers are victorious. They come to the rescue of the male army, but expressions of gratitude are few and far between. Some of the male soldiers in fact become angry that the female army intervened just as the men were on the verge of victory:

> the Masculine Army they did wonder at their ingratitude, that they should forget so much their relievers as to go upon any Warlike design without making them acquainted therewith, striving as it were to steal the Victory out of their hands…[66]

Still, the male soldiers appreciate that they owe the women some expression of gratitude. Their message will be responsive to the heroic nature of the achievement that the women just secured, but at the same time it will incorporate that women are delicate creatures with whom communication must be delicate as well:

> our Lord General was mightily taken with their bravadoes, and much mirth amongst the Commanders was about it; but when they were to advise what to do in the affairs of War, and the warring women, the General told them he made no question but that most men knew by experience that women were won by gentle perswasions and fair promises, and not by rigid actions or angry frowns, besides said he, all noble natures strive to assist the weakest in all lawfull actions, and that he was no gallant man that submits not to a woman in all things that are honourable, and when he doth dissent it must be in a Courtly manner, and a Complemental behaviour and expression, for that women were Creatures made by nature, for men to love and admire, to protect and defend, to cherish and maintain, to seek and to sue to, and especially such women which have out-done all their Sex, which nature ever made before them…[67]

The male soldiers are frustrated and angry. Affronted by the thought that inherently inferior creatures had outdone them, they draft a letter informing the women that if they had stuck to a role that was in line with their female essence, the men would have been victorious on their own:

> we sent you away for your safety, for Heaven knows your Departure was our Hell, and your Absence our Torments; but we confess our errours, and do humbly beg our pardons, for if you had accompanied us in our Battels, you had kept us safe, for had we fought in your presence, our Enemies had never overcome us, since we take courage from your Eyes, life from your smiles, and victory from your good wishes, and had become Conquerours by your incouragements, and so we might have triumpht in your favours…[68]

That is to say, the cause of the defeat of the male army was not the incapacity of the men, but the loss of morale that ensued when the women had ceased to be their cheerleaders. The generalless and her army do receive a series of rewards for their efforts: for example, women who participated in battle are granted the right to sit at the head of the table at dinner; they receive jewelry

and furniture, and any servants that they need; they can wear whatever clothes they prefer; they can travel without telling their husbands when or where they will go.[69] These rewards are no doubt important, but they are also quite domestic. They reflect the essential features that men take women to have – even after their spectacular show of strategy and power in war.[70]

Cavendish uses fiction to construct worlds that by their contrast inform us of the details of the plenum in which we are immersed. In another play, "The Unnatural Tragedy," we encounter a world in which a critical mass of women believe that women are fit to be in charge of civic affairs. This is an alternate world in which a woman would have a better chance of success as a leader because more of the constituents of the plenum would invest in her the authority to do the job:

1 VIRGIN: I would have all women bred to manage Civil Affairs, and men to manage the Military, both by Sea and Land; also women to follow all Manufactures at home, and the men all Affairs that are abroad; likewise all Arts of Labour, the men to be imploy'd in, and for all Arts of Curiosity, the women.

2 VIRGIN: Nay certainly, if women were imploy'd in the Affairs of State, the World would live more happily.[71]

A possible world in which women hold in general that women are as capable as men is distant, Cavendish supposes. The men in actual seventeenth-century England tend to hold that women are fit only for affairs of the home, and many of the women of seventeenth-century England would agree. A woman (like Cavendish herself) might subscribe to a different view, perhaps just privately, but the public expression of any such view would be costly if Cavendish is right about the contents and configuration of the plenum.

In yet another world, Cavendish has a male character rant against the tradition in which women raise their daughters to focus on trivia. He insists that girls should be raised differently and that, if they were, they would become equals with men:

FATHER LOVE: Let me tell you, Wife, that is the reason all women are fools; for women breeding up women, one fool breeding up another, and as long as that custom lasts there is no hopes of amendment, and ancient customs being a second nature, makes folly hereditary in that Sex, by reason their education is effeminate, and their times spent in pins, points and laces, their study only vain fashions, which breeds prodigality, pride and envie.

MOTHER LOVE: What? would you have women bred up to swear, swagger, gaming, drinking, Whoring, as most men are?

FATHER LOVE: No, Wife, I would have them bred in learned Schools, to noble Arts and Sciences, as wise men are.

MOTHER LOVE: What Arts? to ride Horses, and fight Dewels.

> FATHER LOVE: Yes, if it be to defend their Honour, Countrey and Religion; For noble Arts makes not base Vices, nor is the cause of lewd actions, nor is unseemly for any Sex; but baseness, vice and lewdnesse, invents unhandsome and undecent Arts, which dishonours by the practice either Sex.
> MOTHER LOVE: Come, come, Husband, I will have her bred, as usually our Sex is, and not after a new fashioned way, created out of a self-opiniated, that you can alter nature by education: No, no, let me tell you, a woman will be a woman, do what you can, and you may as soon create a new World, as change a womans nature and disposition.[72]

There might be single individuals who subscribe to the views of "Father Love" in seventeenth-century England, and so the world of "Youths Glory and Deaths Banquet" might indeed just be the actual world (or a world nearby). A similar world is the world of "The Religious." There, Lord Melancholy says to Lady Perfection, "'Tis fit you should live to be a President to the World," and she replies: "Were I a President fit for the World to follow, yet the World would not practice my precepts."[73] Lady Perfection is reflecting here that most individuals do not subscribe to the views of Lord Melancholy. She is also pointing out that those views are false in a world that does not take women seriously. There is a sense in which a woman could have all of the skills and capacities to be a fit leader in the seventeenth century, Cavendish thinks, and there is also a sense in which the self-same female would lack these capacities if her subjects would refuse to recognize her authority.

The power of larger composites

Cavendish argues in her non-fiction that the features of a configuration depend in part on the behavior of the beings that surround it and that differences in the capabilities of individual men and women are due in part to the ideas and expectations and behaviors of the beings that inhabit the larger plenum. In effect she is applying her view that collections of individuals sometimes band together into a larger composite in a way that increases their power and chances of survival:

> It is very true, that all Creatures have more power and strength by a joyned assistance, then if every part were single, and subsisted of it self. But as some parts do assist each other, so on the other side, some parts do resist each other…[74]

In the case of the men and women whose commitments result in behaviors that dramatically limit the behavior and capacities of women, these constitute a larger individual that has more power and force than any particular woman or man who might seek to overcome it. The existence of this larger individual is more episodic than the existence of any particular human individual, but it is recurrent, and it is mighty. After all is said and done, however, Cavendish

will not argue that individuals should expend any serious effort toward resisting or modifying the plenum of bodies that surrounds them. The forces involved are too powerful, and no individual would be wise to sacrifice its quantity of motion just to make a point, and to make a point that would go unnoticed. There is very little that an individual can do if the plenum is not already amenable, and Cavendish will instead recommend activities like escapist writing and imagining.[75]

Cavendish does allow that some options are available to women in seventeenth-century England. One such option is marriage, though Cavendish worries that it leaves a lot to be desired:

> But Marriage most commonly knocks all quick Spirits on the Head, and buries all Wit and Mirth, giving Life onely to Care and Trouble. … CRying on ones Wedding Day is like a King that begins his Reign in Blood; and although he may prove full of Clemency, yet it is a sign he will be a Tyrant all his Reign after: So Women may be happy after Bridal Tears, yet it prognosticates but a Cloudy Life.[76]

If a pervasive belief in the plenum is that women are fit primarily for marriage and breeding, and if household affairs are thought to be less exalted than intellectual, scientific, military, and business activities, then a woman with the drive and capacity to do any of the latter will find marriage very constraining. The unmarried female will encounter trouble also. If she opts not to be a wife but instead to become a philosopher or barrister or doctor, for example, she would not have many takers, and it is not clear that there is any sense in which she would actually be (for example) a doctor. She might have a few accomplices in the plenum who would be inclined to seek her services, but these individuals would need to be careful of the plenum as well: they would not enhance their own social capital to cavort with her, and very likely they would pay a price. In yet a different scenario, a woman might be unmarried not because she opts not to marry, but because she goes unchosen. Her existence (in the seventeenth century) will have unpleasant moments indeed. If women are thought to have value to the extent that they can breed, she will be treated as having little value at all. A legitimate world for an unmarried woman, however, is the world of the convent:

> it is an Honour for Maids to get good Husbands, because it is a kind of Reproach to live unmarried, for Marriage is Honourable, and gives a Respect to Women, unless they be incloystered, which all Constitutions will not agree withal…[77]

Some women will be satisfied and content living in a convent – doing the important work of celebrating the glory of God. Depending on the direction of their internal motions, some will not. The latter would suffer a life of frustration outside of marriage, or a life of frustration within:

> *I* have designed the voyage of my life; first never to marry, if *I* may have your consent to live a single life, for that time which will be lost in a married condition, *I* will study and work with my own thoughts, and what new Inventions they can find out, or what probabilityes they conceive, or phancies they create, *I* will publish to the world in print before *I* make them common by discourse, but if *I* marry, although *I* should have time for my thoughts and contemplations, yet perchance my Husband will not approve of my works, were they never so worthy, and by no perswasion, or reason allow of there publishing; as if it were unlawfull, or against nature, for Women to have wit. And strives allwayes if their wives have wit, to obscure it. And *I* am of that opinion, that some men are so inconsiderately wise, gravely foolish and lowly base, as they had rather be thought Cuckolds, than their wives should be thought wits, for fear the world should think their wise, the wiser of the two…[78]

Certainly there were females in the seventeenth century who were not unhappily married. Perhaps they had goals that were in line with the possibilities allowed by the plenum, or perhaps like Cavendish they were able to spend time in pursuits that the majority of husbands would not stand to endorse. The individuals of seventeenth-century England were not more powerful than the plenum by which they were surrounded; these individuals were not able to engage in activities that the plenum ruled out. Cavendish herself was able to write and study, but many identities were not an option for her.

Cavendish has plenty to say about the limitations that the plenum imposes upon women, but she does not thereby hold that men are somehow fully autonomous. They are surrounded also. She describes for example the expectations and beliefs that make it difficult for a man to be fully committed to his family. If a man is too doting as a husband or parent, she writes, he forgoes a significant amount of social and political capital:

> If a Man love his Wife with a clear and constant Affection, rejecting the Amorous Allurements of other Women for her sake, finding all in his Wife that he can wish, or at least desires no more than what he enjoys, and is best pleased to live a life of quiet at home, ruling his Family with Love and Obedience, thinking it more wise to enjoy the World thus, than to trouble himself with those Affairs of the World which neither bring him Ease, Peace, nor Profit; but if he must act several parts upon the Stage of the World, to which he is forced either by Honour or Necessity, not by Choyce, this Man shall be thought either an Uxorious Man, or a Fool, or a Madman, either to give himself over to various and voluptuous Delights, or to deliver up not onely his Person and Estate, but his Reason and Liberty, to the humours and will of his Wife; As if a Man when he gives his Child a

> Hobbyhorse, because he lets his Child do so and so in many like Causes, and if the Child desire to go abroad, the Father desires to please his Child, when it hinders not more potent Affairs; thus if he doth not cross his Child in every thing, but is well content to please and humour him in harmless things, he is thought too fond and indulgent a Father to his Child: just so is a Husband condemned if he humours and pleaseth his Wife in letting her have her will in honest, and not in dishonourable Recreations. Shall it be more Dishonour for a Man to love his Wife, than another Mans Wife? Shall a Man be accounted a Fool because he is honest to Wedlock? because he is kind to his own Wife? Was *Augustus Caesar* less Wise because he loved? or *Pompey* less Valiant because he loved? *Salomon* may be said to be less Pious towards God through the great Love he bore to *Pharoah's* Daughter, which was his first, and dearly beloved Wife, yet he was not less Wise in respect of the World.[79]

Honor may be relatively speaking amorphous, but Cavendish is noting that it has concrete effects. The person who is regarded as honorable carries a kind of credit in the eyes of those who surround him. If what is honorable is to treat men and women in accordance with their presumptive nature, one of the ways that a man can behave honorably is by making sure that women inside and outside of marriage are treated as subordinates. A man who has a reputation for valuing home and family above all else will be regarded as having poor judgment, and people will socialize and do business with whomever they see fit. The man who is known to value the wrong kind of thing will get the short end of the stick in his social and business dealings, with implications for the finances of the family on which he dotes. The plenum is what it is, and a caring father might be wise to fall into line.

Cavendish supposes however that women still have it worse. The beliefs and expectations and behaviors that limit the possibilities of women are far more numerous and constraining than the beliefs and expectations and behaviors that limit the possibilities of men. We have seen numerous examples thus far: the current plenum keeps women from becoming philosophers, scientists, soldiers, and much more. Cavendish speaks also to the severity of the penalties for women if they behave in ways that the larger plenum does not endorse. For example, there is the social penalty for a woman who has sex outside of marriage, and the woman's inability to restore her reputation:

> If a Woman gets a spot in her Reputation, she can never rub it out.[80]
>
> IT is the greatest Dishonour for a Man to be called a Coward, for a Woman to be called a Whore; and nothing will satisfie a Man that is called a Coward, but the Life of him that doth it, so Tender is he of

> his Honour, and so Revengefull doth the Loss make him: But a Woman can give no Honourable Revenge; if she be disgraced with Words, she must onely mourn over her Loss of Honour; she may weep Funeral-tears over it, or curse or sigh for it; but when it is once Dead, it hath no Resurrection.[81]

A man has to deal with a very serious obstacle if the only way for him to restore his reputation is to fight a duel to the death, but he does have a chance to restore it, Cavendish is suggesting.[82] A reputation for adultery is also disproportionately damaging to a woman:

> IN Marriage it is far worse, and more Inconveniencies come by the disobedience of the Wife, and her Adulteries, than the Husband. For first, she dishonours her self, insomuch as her Company is an Aspersion to all honest Women that frequent therein, which makes the Chast to shun her Society. Next, she is a dishonour to the Family from whence she sprung, and makes the World suspect the Chastity of her Mother; for there is an old saying, *Cat will after kind:* thus we see that the World is apt to judge from the Original. The third dishonour is to their Children; for were they never so Beautifull, and Virtuous, yet Families of Honour refuse to match with them, unless they bring great advantage by their Wealth; and then none will receive them into their Stock, but those whom Poverty hath eaten up; for the disgrace is like the Leprosy, never to be cured; and it infects the whole Posterity, and it gives Spots to the Family it is joyned with. The fourth and last dishonour is to the Husband; for let a Husband of a dishonest Wife be never so worthy a Man, yet her Follyes shall lessen the Esteem of his Merits to the generality of the World…[83]

Given the details of the actual-world plenum, it is hard to see what avenues are open to a woman who is trying to restore her reputation. She might attempt to garner support from friends and associates, but they would be wise to show restraint. They are surrounded by the plenum as well. A second option for a person who is seriously constrained by the plenum is to inhabit a world that is more amenable to their pursuits and projects – that is, to retreat to a world of imaginary fancies. This can be done in thought, and it can also be done in the exploratory work of writing. For example, in *The Lady Contemplation* Cavendish fashions a scenario in which a woman loses her reputation for committing adultery and is encouraged to win it back with force:

> For why may not a woman revenge her scandaliz'd honour as well as a man? Is there any reason why it should be a dishonour for a man

> to pass by a disgrace, and for a woman to revenge her disgrace? Is it not as great a blemish to the honour of a woman, to be said to be unchaste, as for a man to be said to be a Coward? And shall a woman only sit and weep over her lost honour, whilest a man fights to regain his? And shall it be thought no dishonour for a man to pistol, or at least bastonade another man for an injury, or an affront receiv'd, and a fault for a woman to do, or cause to be done the like? Must women only sit down with foolish patience, and endure wrong, when men may execute revenge with fury? These were both injustice, and an unjust act of Education to our Sex; as also it would be an unjust sentence, not only from men, but from the Gods…[84]

In the actual world, a woman would lose her reputation for committing adultery, and her situation would degrade further still if she attempted to restore it with a weapon. The actual world is not great, Cavendish thinks, and there is little that we can do to change it if it is not already close to where we would prefer it to be. However, imaginary worlds of fancy are a close second. These will be the topic of chapter seven.

Notes

1 *GNP*, 242. See also *NP*, 613–615.
2 "The *Ruine* of the *Island*," *Poems and Fancies*, 119.
3 *GNP*, 243.
4 *OEP*, "Further Observations Upon Experimental Philosophy," 40. See also *PL*, 96. In some of these passages, however, she sneaks in her preference for the view that we cannot act in ways that circumvent our current motions and the motions of the bodies that surround us. See for example *PL*, 505: "no Creature ought either to think or to speak any thing that is detracting from the Glory of the Creator: Wherefore I am neither for Predestination, nor for an absolute Free-will, neither in Angels, Devils, nor Man; for an absolute Free-will is not competent to any Creature: and though Nature be Infinite, and the Eternal Servant to the Eternal and Infinite God, and can produce Infinite Creatures, yet her Power and Will is not absolute, but limited; that is, she has a natural free-will, but not a supernatural, for she cannot work beyond the power God has given her. But those mystical discourses belong to Divines, and not to any Lay-person, and I confess my self very ignorant in them. Wherefore I will nor dare not dispute God's actions, being all infinitely wise, but leave that to Divines, who are to inform us what we ought to believe, and how we ought to live."
5 See for example *OEP*, "Further Observations Upon Experimental Philosophy," 85, but additional passages will be cited below.
6 *OEP*, 108.
7 *PL*, 144.
8 *PL*, 498.
9 This language is from the passage cited immediately above (*OEP*, 108).
10 See also the similar view in Hobbes, *Leviathan*, I.xxi.2, 136.
11 Except, again, when they are not. See for example *PL*, 356–357.
12 *PL*, 151–152.
13 *PL*, 152–153.

14 Here I am disagreeing with a number of commentators including Detlefsen (2006), 233–237; Detlefsen (2007), 180–187; Detlefsen (2009), 427–428; Mendelson (2014), 39; Sarasohn (2014), 96–97; and Ankers (2003), 249. Sarasohn (2003, 51) says for example that there is indeterminacy in Cavendish's plenum and that this "indeterminacy, built into the very matter of the universe, produces the fundamental liberty of all creatures." Note that Walters (2014), 83–87, strongly suggests that, given her views on causality and fortune/chance, Cavendish is a compatibilist. Note also that Boyle (2006), 257–258, suspends judgment on the question of whether or not Cavendish subscribes to a libertarian view of freedom; she considers the anti-libertarian passages, but stands them up against the many passages in which Cavendish insists that nature is free. One of the problematic features of this debate is the extent to which commentators take Cavendish's claims that nature is free to be tantamount to the claim that nature has libertarian freedom.
15 *NP*, 590. See also *OEP*, "To the reader," unnumbered.
16 *OEP*, 158. See also *PL*, 214.
17 *GNP*, 4–5. See also *GNP*, 251, 3.
18 *GNP*, 34. See also *PL*, 34; and *OEP*, 238–239.
19 *GNP*, 20.
20 *OEP*, "Further Observations Upon Experimental Philosophy," 85.
21 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 54–55. Detlefsen (2007), 182, cites this passage in defense of the view that Cavendish subscribes to a libertarian view of freedom.
22 *OEP*, "To the Reader." See also *OEP*, 30; and PL, 95, where Cavendish writes, "to prove there is no self-motion in nature, he [Hobbes] goes on and says; *To attribute to created bodies the power to move themselves, what is it else, then to say that there be creatures which have no dependance upon the Creator?* To which I answer, That if man (who is but a single part of nature) hath given him by God the power and a free will of moving himself, why should not God give it to Nature?" Here Cavendish is equating freedom with self-motion.
23 *PL*, 31–32.
24 *NP*, preface, unnumbered.
25 Some commentators have argued that Cavendish holds that males and females are more or less equal and that differences in their achievements and capacities are to be traced to education and breeding. See for example Gagen (1959), 527–529; Sarasohn (1984), 289–292; and Paloma (1980), 59–60. As we will see, there are passages in the Cavendish corpus that speak very negatively of female capacities. One thing to note up front, however, is that Cavendish tends to speak negatively of human beings more generally. We have seen some of the relevant passages already, but she says for example in *Worlds Olio* that a wise person is not only unusual in a given country, but in an entire age (*WO*, 3). (See also "Of Three Travellers," *NP*, 184.) Accordingly, some of Cavendish's negative claims about women might just be part of a universal condemnation of human beings, where she might be highlighting the relative wisdom of non-human animals instead. Still, there are passages in which Cavendish speaks comparatively of the capacities of males and females, and where she assesses the capacities of females to be lower; I will argue that Cavendish holds that males and females are for the most part equal in terms of their capacities and that differences in these are due to the ways in which the surrounding plenum is differently responsive to men and women – to their behavior, and to the development of their skills and talents.
26 *ODS*, "Female Orations," 227.
27 *ODS*, "Female Orations," 230. See also *SL*, Letter XLVIII, 97–98, and Letter CCX, 449–451.

28 See also Sarasohn (2010), 111–114, and Detlefsen (2012), 149–168. Additional Cavendish passages are considered below.
29 *PPO*, "To the Two Universities," unnumbered.
30 *WO*, "The Preface to the Reader."
31 *OEP*, "To the Reader," unnumbered. Cavendish also supposes that theological arguments offered to demonstrate the inferiority of women are weak. See for example *WO*, "Of Men and Women," 83–84.
32 *WO*, "Noble Souls and Strong Bodies," 215. See also *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 2; and *SL*, Letter XXVI, 50–51.
33 *PL*, 415, emphasis added.
34 "To All Writing Ladies," *Poems and Fancies*, unnumbered.
35 If women were inferior inherently or essentially, they would not be able to succeed in these alternate worlds either. This objection is considered more fully below.
36 *PPO*, "An Epilogue to My Philosophical Opinions," unnumbered. See also the discussion in Lewis (2001), 350–351.
37 "Youths Glory, and Deaths Banquet," *Playes*, 134. See also the following exchange in "The Unnatural Tragedy," *Playes*, 329: "No, I will never decide the disputes of Fool, Mad-men, Drunkards, nor Women: for Fools understand no Reason, Mad-men have lost their Reason, Drunkards will hear no Reason, and Women are not capable of Reason. …If *Iove* hath not given them rational fouls, I am sure Nature hath given them beautiful bodies, with which *Iove* is enamour'd, or else the Poets lye."
38 "Youths Glory, and Deaths Banquet," *Playes*, 136.
39 Ibid., 140.
40 Ibid., 145.
41 *Playes*, "An Introduction," 2. See also "Wits Cabal," *Playes*, 270: "Women make Poems? burn them, burn them; let them make bone-lace, let them make bone-lace."
42 "The Female Academy," *Playes*, 664.
43 Ibid., 667.
44 See also Paloma (1980), 64–65; and Simone de Beauvoir, *The Second Sex*, "Introduction," and chapters XII-XIII.
45 Ibid., 671–672.
46 Ibid., 678–679.
47 She knew that she had a very unusual marriage partner, for example, but see also Skouen (2014), 568–569, and Walker (1997), 348.
48 *PPO*, 53. See also "To Poets," *Poems and Fancies*, 121: "I have *Truth* to speak in my behalse for some favour; which saith sirst, that *Women* writing seldome, makes it seem *strange,* and what is *unusuall,* seemes *Fantasticall,* and what is *Fantasticall,* seemes *odd,* and what seemes *odd, Ridiculous:* But as *Truth* tells you, all is not *Gold* that *glisters;* so she tells you, all is not *Poore,* that hath not *Golden Cloaths* on, nor *mad,* which is out of *Fashion;* and if I be out of the *Fashion,* because *Women* do not generally *write;* yet, before you *laugh* at me, let your *Reason* view strictly, whether the *Fashion* be not *usefull, gracefull, easie, comely,* and *modest:* And if it be *any* of *these,* spare your *Smiles* of *Scorne,* for those that are *wanton, carelesse, rude,* or *unbecoming:* For though her *Garments* are *plaine,* and *unusuall,* yet they are *cleane,* and *decent.*"
49 Cavendish, *The description of a new world, called the blazing-world*, 15–80.
50 Ibid., 89.
51 Ibid.
52 Some commentators point out that not all ends well for the Empress on Blazing World and that the story might be read as a kind of warning against female authority and rule in the seventeenth century. (See for example Hintz [1996], 25–37.)

Perhaps given what Cavendish says about education and breeding and their impact on differences between men and women, she would at most be advancing a pragmatic warning about who would and would not be the most effective ruler of subjects who do take seriously a woman's authority. Someone might warn similarly that an African American would not be the most effective President of the United States in the pre-civil war era (or beyond).

53 See also Sarasohn (2003), 53–54; and Jowitt (1997), 391–396.
54 "Bell in Campo," *Playes*, 581.
55 Ibid., 582–583.
56 Ibid., 585.
57 Ibid., 587–588.
58 Ibid., 588–589.
59 Some commentators have wondered about the relevance of the fact that women tend to be accomplished only in Cavendish's fictional writings. See for example Boyle (2006), 279; and McGuire (1978), 198.
60 Ibid., 588–589.
61 Ibid.
62 Ibid., 594.
63 Ibid., 609.
64 Ibid., 609.
65 Ibid., 610.
66 Ibid., 612.
67 Ibid., 612.
68 Ibid., 616.
69 There are eleven declarations total in honor of the women's effort at war (ibid., 631).
70 Lady Victoria points out one final reward that the female warriors garner for their efforts – a vivid awareness of their own capabilities. She says, "Noble Heroickesses, by your valours, and constant, and resolute proceedings, you have brought your Tyrants to be your Slaves; those that Commanded your absence, now humbly sue your presence, those that thought you a hindrance have felt your assistance, the time is well altered since we were sent to retreat back from the Masculine Army; and now nothing to be done in that Army without our advise, with an humble desire they may join their forces with ours: but gallant Heroickesses, by this you may perceive we were as ignorant of our selves as men were of us, thinking our selves shifdels, weak, and unprofitable Creatures, but by our actions of War we have proved our selves to be every way equal with men; for what we want of strength, we have supplied by industry, and had we not done what we have done, we should have lived in ignorance and slavery" (ibid., 617). See also Tomlinson (1992), 149.
71 *Playes*, 332.
72 "Youths Glory and Deaths Banquet," 123–124.
73 "The Religious," *Playes*, 551. There were cases of powerful female monarchs with which Cavendish was no doubt familiar, but she is focusing her critique more on the prospects of the vast majority of women. For example, Elizabeth I was a powerful ruler in the sixteenth century, but Cavendish would presumably argue that she was surrounded in the plenum by Tudor power and its history.
74 *PL*, 446.
75 This will be the focus of chapter seven.
76 *WO*, 78. See also Suzuki (1997), 487–488; and Sarasohn (1984), 298–299.
77 *WO*, 85.
78 This is the voice of Sanspareille in "Youth's Glory and Death's Banquet," *Playes*, 131. Rees (2003), 176–177, notes that the philosophical positions of Sanspareille

and the philosophical positions of Cavendish coincide and that Sanspareille would appear to be Cavendish herself.

79 *WO*, 82–83.

80 Ibid., 109.

81 Ibid., 148.

82 And presumably the accusation of cowardice would be less likely to be made in the first place, if an accuser knew that the outcome would be a duel.

83 *WO*, 75. See also Weitz (2003), 156–157.

84 "The Lady Contemplation," *Playes*, 232.

7

STOICAL FANCIES

For Cavendish, material bodies constitute a plenum, and the behavior of each body is due to its own internal motions and the motions of the bodies with which it is contiguous. Bodies cannot behave in any other way than they do: they could engage in different internal motions only if they had additional alternative motions by which their actual motions could be changed, but these "additional" motions would be among its motions already. They would not be additional, and a prior cause always necessitates its effect. Still, a body is free to the extent that the plenum is pliant and allows it room to achieve the goals toward which its internal motions are directed. Many of the configurations in nature work together agreeably in this regard – at least with respect to a significant stretch of their duration – and in other cases bodies oppose each other. Cavendish offers a couple of proposals for what we might do in cases in which our goals and aims are thwarted by the motions of the surrounding plenum. One is to embrace a stoic attitude of moderating our desires so that we come to like the plenum as it already is. Another is to retreat to imaginary worlds of fancy. Such worlds offer us pliancy to maneuver, Cavendish argues, and they do not differ all that much from real life. A proposal that Cavendish does not recommend for addressing the obstinacy of the plenum is taking it on directly. The regions of the plenum that oppose us are often too entrenched and too powerful: tautologically speaking, such regions are striving to maintain their own quantity of motion, and they will always dominate those that are weaker. Luckily there are imaginary fancies to provide us with a level of experience that is satisfying and more or less ready-at-hand.

Stoicism

Cavendish supposes as a datum that human beings in many cases have desires that are extremely difficult to fulfill. We might be able to fulfill *some* of our desires, but many will go frustrated. So long as these impel us to labor toward their fulfillment, we will struggle:

> MAN is more apt to take Dislikes at all things, than to delight in any thing; but Nature hath given us no Pleasure, but what ends in Pain;

for the end of Pleasure is Grief: for Cruel Nature curbs us in with Fear, and yet spurs us on with Desires; for she hath made Mans mind to hunt more after Varieties by Desire, than she hath made Varieties to satisfie the Desires.[1]

A sober Man, who had a thinking-Brain,

Of Vice and Vanity did thus complain:

'TIS strange to see the Follies of Mankind,
How they for useless things do vex their Mind:
For what superfluous is, serves them for nought;
And more than necessary is a fault:
Yet Man is not content with a just measure,
Unless he surfeits with Delight and Pleasure;
As if true Pleasure only liv'd in Pain,
For in Excess Pain only doth remain….[2]

Malicious.

Can any Creature be content without the fruition of desire?

Tell-truth.

Those that cannot, must be unhappy all their Life.[3]

As we will see, Cavendish is no enemy to pleasure; she will recommend a life of pleasure, so long as it is of the sort that is sustainable. Some of our desires can be fulfilled easily, but many of them nag at us: we struggle to satisfy these, and as soon as we do, another want or lack takes its place. We are unfulfilled in the act of pursuing such desires, but that means that we are unfulfilled almost always:

> although they may be more happy with lesse, but nature hath given men those vast desires, as they can keep in no limits, yet they begin low and humble; as for example, a man that is very poor, and in great wants, desires onely to have so much as will serve meer necessity, and when he hath that, then he desireth conveniences, then for decency, after for curiosity, and so for glory, state, reputation and fame; and though desire runs several wayes, yet they aym all at one end. If any end there were, which is to imbrace all, but some say the minde is the measure of happinesse, which is impossible, unlesse the minde were reasonable; for the minde is not satisfied though it had all, but

> requires more, so the minde is like eternity, alwayes running, but never comes to an end.[4]

We would be wise to have different desires, Cavendish supposes – desires that are so easy to meet that we could fulfill them regularly, and desires that satiate us to the point that we are not immediately pulled in a different direction.

As she does in other contexts, Cavendish sees non-human beings as a model to which we might aspire. Unlike trees and bees and other sophisticated configurations of matter, our internal motions strive to meet desires in a way that wears on us. This is to say – structurally speaking, we are a bit unstable. She writes,

> but we may observe, that when as other Creatures have no more then what is necessary for their preservation, Man troubles himself with things that are needless; nay, many times, hurtful…[5]

Oake.

Yet *I* am happier, said the *Oake,* then *Man;*

With my condition *I* contented am.

He nothing loves, but what he cannot get,

And soon doth surfet of one dish of meat:

Dislikes all Company, displeas'd alone,

Makes *Griese* himselfe, if *Fortune* gives him none.

And as his *Mind* is restlesse, never pleas'd;

So is his *Body* sick, and oft diseas'd.

His *Gouts,* and *Paines,* do make him sigh, and cry,

Yet in the midst of *Paines* would live, not dye.

Man.

Alas, *poore Oake,* thou understandst, nor can

Imagine halfe the misery of *Man.*

All other *Creatures* onely in *Sense* joyne,

But *Man* hath something more, which is *divine.*

He hath a *Mind,* doth to the *Heavens* aspire,

A *Curiosity* for to inquire:

A *Wit* that nimble is, which runs about

In every *Corner,* to seeke *Nature* out.
For *She* doth hide her selfe, as fear'd to shew
Man all *her workes,* least *he* too powerfull grow.
Like to a *King,* his *Favourite* makes so great,
That at the last, *he* feares his *Power* hee'll get.
And what creates *desire* in *Mans Breast,*
A *Nature* is *divine,* which seekes the best:
And never can be satisfied, untill
He, like a *God,* doth in *Perfection* dwell.[6]

As we have seen, Cavendish is a great admirer of non-human configurations of matter. For example, non-human bodies engage in highly sophisticated behavior – in many cases behavior to which human art pales in comparison. Non-human bodies also have a lot to teach us: they are a reminder that much of the organized activity that takes place in the plenum is unconscious – pointing us in the direction of unconscious states that guide our own behavior – but they also inform us that a creature can achieve a high-level of satisfaction and contentment if it minimizes its desire for luxury. She writes,

O happy Beasts! that spend the day
In pleasure with their nearest Kin,
And all is lawful in their way,
And live and dye without a sin.
Their Conscience ne're troubled is;
We made so, yet forbid it too:
For Nature here is not amiss,
We strive 'gainst what w'are made to do.[7]

As animals ourselves, we presumably should be fulfilled in many of the same kinds of pursuit. If we thumb our nose at simple pleasures, we will not have the chance to enjoy them, and we will struggle in frustration to satisfy desires that do not live up to their billing.

Our most prudent course of action, Cavendish thinks, is to follow the lead of non-human beings and align our desires with what is and must be. The behavior of the bodies of the plenum will unfold as a function of their own internal motions and the motions of the bodies that surround them.[8] The

bodies that enjoy the highest levels of satisfaction are those that have goals that run with the grain. She writes,

> And what we cannot help, submit unto.[9]
>
> [A]nd those are Fools, that will trouble their Minds for that, which cannot be help'd…[10]
>
> Man still with thoughts himself torments,
> Various desires, what shall be;
> And in his life hath small contents:
> Beasts pleas'd with what they have, not we.
> Repining Man, for what is past,
> Hating the present what they see,
> Frighted with what's to come at last:
> Beasts pleas'd with what is, and must be.[11]
>
> Man is weary of what he hath, and torments his Life with various Desires, where Beasts are contented with what they have; Man repines at what is past, hates the present, and is affrighted at what is to come, where Beasts content themselves with what is, and what must be; Man hates Ease, and yet is weary of Business; Man is weary of Time, and yet repines that he hath not Enough; Man loves himself, and yet doth all to hurt himself, where Beasts are wise onely to their own good: for Man makes himself a trouble, where Beasts strive to take away trouble; Men run into Dangers, Beasts avoyd them; Man troubles himself with what the Sense is not capable of, when Beasts content themselves with their Sense, and seek no further than what Nature directs, with the just measure of the pleasure of their Sense, and no more; Beasts seek not after vain Desires, or Impossibilities, but that which may be had; they do not backbite or slander; they raise not false Reports, their Love is as plain as Nature taught; they have no seeming Grief…[12]

Cavendish supposes that we would be wise to follow the lead of other animals and be content with what we already have or what is easily within our reach. The plenum allows for us to have a full spectrum of desires, but it does not allow for most of these to be fulfilled.

Cavendish of course allows that we might *think* that we are able to satisfy all of our desires – perhaps we are oblivious to the variables that will thwart us time and time again, because of our incomplete representations of the

bodies that surround us.[13] However, the bodies of the plenum will behave in the light of the motions that are actually in the plenum, whether we notice them or not. What we imagine to be possible does not always coincide with what is in fact possible, Cavendish supposes, and we would be better off if our desires were more realistic. A more suitable attitude toward the plenum is indeed to moderate our desires and to not expect what it will never give:

> But Men seek for that abroad, whereof they have better at home, and the unsatiable Desire of Mankind makes them search for what is never to be found: But where Nature gives a Satisfactory Mind, she gives a Happy Life; and what can we imagin the Joys of Heaven, but a stint to our wandring Desires; therefore those that are most fixt, are nearer Heaven; and he is the Wisest, that is nearest to Unity; and those that are most united, are likest to a God.[14]

Here Cavendish is being uniformly descriptive – making claims about which sorts of human mind are satisfied and happy, and which are not. She is making descriptive claims about which minds are "Wisest" and about the kinds of factors that seem to motivate their approach and their behavior. She writes again,

> That Man that seeks in Life for more than Health,
> For Rest and Peace within his Commonwealth,
> (Which is his Family) sure is not wise,
> And know not where true Happiness still lies.
> Nor doth he guess that Temperance doth give
> The truest Pleasure, makes it longest live.[15]
> For, *they* are *poore,* whose *Mind* is discontent,
> What *Joy* they have, it is but to them lent.
> The *World* is like unto a *troubled Sea,*
> *Life* as a *Barque,* made of a *rotten Tree*….
> But if this *Barque* be made with *Temperance* strong,
> It mounts the *Waves,* and *Voyages* takes long.[16]

The wise person is someone who has initiated steps so that their desires align with the way that things happen anyway and on their own. To be fulfilled or content, the ratio of our fulfilled desires to our total desires needs to be very high, and the person who is most fulfilled is someone who has

successfully chipped away at the denominator. This person proceeds in a way that is systematic and effective – crafting a sort of cognitive armor that enables him to "mount… the Waves" and take "Voyages… long." Cavendish is also supposing that this person would be more free: he is able to pursue his desires and goals with little interference.

Cavendish assumes that unsatisfied desires not only make us discontent; they lead us to act in ways that are self-destructive. For example, she explores the case in which a person becomes discombobulated as a result of wanting or expecting a certain outcome to obtain, when the outcome is in fact impossible. A passion – for example anger or fear – can get the better of our behavior, leading to consequences that are not reversible:

> For the passions; as for example, a man that is extraordinary angry makes him run into fury for the present, as many times to commit so rash an action, as to make him unhappy all his life after, by killing a friend, or at least losing a friend: or getting an enemy by an unseasonable word, and those that have no anger must of necessity receive great affronts, at some time or other, for patience is to be content when there is no remedy…[17]

A person will navigate their environment with much more competence and alacrity if they possess the cognitive tools to keep their passions in check. This is easier said than done, of course, and the relevant adjustments cannot be made on a dime. A person would need to have the right internal motions, the right amount of agility and pliancy, and possibly some help from without. Training and practice are necessary, Cavendish thinks, and the model and exemplar is the philosopher:

> *MOrall Philosophy* is a *severe Schoole,* for there is no *Arithmetitian* so exact in his Accounts, or doth *Divide* and *Substract* his *Numbers* more subtlely, then they the *Passions;* & as *Arithmetick* can multiply *Numbers* above all use, so *Passions* may be divided beyond all *Practice.* But *Moralists* live the happiest lives of Man-kind, because most contented, for they do not onely subdue the *Passions,* but can make the best use of them, to the Tranquility of the mind: As *Feare* to make them *Circumspect, Hate* to *Evill, Desire* to *Good, Love* to *Vertue, Hope* makes *Industry Jealous* of *Indiscretions, Angry* at *Follies,* and so the like of all the rest. For they do not only subdue the feircest of them, making them Slaves to execute several works, in several places. But those *Passions* that are *mild,* & of *gentle Nature,* they make perfect *Friend-ship* with: for the *Passions* are like Privie *Counsellors,* where some Counsell for *Peace,* others for *Warre,* and some being brib'd with the *World,* and *Appetite,* perswade to mutiny, which uses a *Rebellion.* But *Moralists* are like powerfull *Monarchs,* which can

make their *Passions* obedient at their pleasure, condemning them at the Bar of *Justice,* cutting of their heads with the sword of *Reason;* or, like skilfull *Musitians,* making the *Passions Musicall Instruments,* which they can tune so exactly, and play so well, and sweetly, as every severall *Note* shall strike the *Eares* of the Soule with delight: and when they play Concords, the Mind dances in *Measure,* the *Sarabrand* of *Tranquillity.*[18]

The well-trained philosopher appreciates that there is little benefit to getting bent out of shape when a situation does not go their way. Cavendish is supposing that we would be wiser to conclude that the desires with which we find ourselves do not always serve us: they cause us grief when they are persistent and unfulfilled, and they keep us from a focus on goals that are within reach. We will be more agile and free in our attempts to accomplish such goals if we are never discombobulated, and we will recognize which goals lead to pleasure and which do not.[19] We do not automatically owe anything to our existing desires, and Cavendish is arguing that we would benefit to do some pruning.

As we saw in chapter one, a desire that Cavendish supposes that we find particularly difficult to neutralize is the desire to pursue questions that our senses and reason do not have the resources to answer. Human beings tend to want to be something other than they are, Cavendish thinks; they want to be something more than limited and finite. We have many of the same limitations as non-human creatures, but we do not share their realistic and well-grounded aspirations:

> *Beast* hath no paine, but what in *Sense* doth lye,
>
> Nor troubled *Thoughts,* to think how they shall dye.
>
> *Reason* doth stretch *Mans mind* upon the Rack,
>
> With *Hopes,* with *Joyes,* pull'd up, with *Feare* pull'd back.
>
> *Desire* whips him forward, makes him run,
>
> *Despaire* dothwound, and pulls him back agen.
>
> For *Nature,* thou mad'st *Man* betwixt *Extreames,*
>
> Wants *perfect Knowledge,* yet thereof he dreames.[20]

Cavendish speaks in admiration, and even in envy, of beings that are satisfied with the modest amount of information that is available to them – information that makes possible the peaceable navigation of their local environment. They do not spend time dwelling on what cannot be had, or worrying about what is not before them and what is not anywhere nearby. In an extended version of a passage that we considered in chapter one, Cavendish writes,

Man's troubled Head and Brain still swelling
Beyond the Power of Senses five,
Not capable of those things telling:
Beasts beyond Senses do not strive.
Nature's just measure, Senses are,
And no Impossibles desire:

Beasts seek not after things that's far,
Or Toys or Baubles still admire.
Beasts Slander not, or Falshoods raise,
But full of Truth, as Nature taught;
And wisely shun dissembling ways,
Follow Dame Nature as they ought.[21]

Human animals might want an answer to the question of why it is that bodies have the basic capacities that they do, or to the question of how and why matter thinks. We might also raise questions about the details of the cause of the universe, or about what our experience might be like after our bodies have decomposed. We cannot say anything in response to these and many other questions – except to say that they are beyond us – and we will be miserable if we cannot in some way moderate the desire to press them. Cavendish supposes that this desire is a fixture of most human bodies, and is firmly entrenched. If so, we would have to find a way to work around it.

Cavendish takes untrained desires to be an enemy to contentment. They tend to keep us unfulfilled, and they prevent us from responding patiently and skillfully to the situation at hand. She proposes that we would be much better off to seek fulfillment in things that are within our reach or that we already have. If we are lucky enough to have only modest possessions, for example, we can focus our attention on what is before us and be grateful that we are not saddled with more:

> THe Farmer and his wife, sons, daughters, and servants, are happier then the Kings, Nobles, or Gentry, for a king hath more cares to govern his kingdom then he receives pleasure in the enjoyment. The Farmers care is onely to pay his rent, which he must have a very hard bargain, or be a very ill husband if he cannot do it, he takes more pleasure in his labour, then the Nobility in their ease, his labour gets a good stomack, digests his meat, provokes sleep, quickens his spirits, maintains health, prolongs life, and grows rich into the bargain. The

> Nobility, or Gentry, their disease of idlenesse deads their stomacks, decayes their health, shortens their lives…[22]
>
> But he that hath no more Ground than he can ride about every day, nor more Servants than what his two Eyes can observe, nor more Labourers than what he can diligently follow, nor more Cattel than what he can easily count, nor more Mouths than Business; this Man shall thrive so, as to be able to pay his Landlord's Rent, to maintain his Family, and have Money in his Purse to lay out upon a good Bargain, when many a good Worshipful Gentleman is fain to borrow, and find more wants in his Abundance, than the other in his hired Farm; and those are the happiest Masters (said she) that have not many nor high desires, and can be content with a little, and whose Wants are not above their Means.[23]

Here Cavendish applies the stoical strands of her thinking in a way that might seem a bit (or even very) self-serving. She herself was Duchess of Newcastle, and not anything close to a farmer, but she states without hesitation that farmers and others excluded from nobility often experience a greater amount of pleasure and happiness as a result. A farmer would be unwise to attempt to change his position in society – not just because he would likely be crushed, or because his own efforts and the efforts of those around him might result in a chaotic social uprising – but because he is better off as he is. All three of these are good reasons for an individual not to attempt to change their social standing, Cavendish supposes, and as we will see in chapter eight, she thinks that social rank must be respected in *any* society that wishes to preserve its cohesion. Attempts to upset the social order *will* likely lead to the destruction of those who initiate them, and to a level of chaos that makes flourishing possible for none.[24] But another reason that individuals would be wise to accept their standing is that if they understood the fullness of their situation, and the fullness of the situation into which they seek to enter, they would recognize that they are better off right now. For those of us who are *not* able to be content with what we have, Cavendish recommends another way to come to terms with the plenum that is before us. If we cannot enjoy where we already are – and Cavendish supposes that many of us cannot – she recommends that we take regular retreats to the pliant world of imagination and fancy.

As a compatibilist, Cavendish holds that we are free when we act in accord with our desires and goals, and the bodies of the plenum do not interfere. But in many instances we are not free: the configurations of the plenum have goals themselves, and there is only so much that we can do when these run counter to our own. Bodies are often overpowered, and a human being is no exception:

> we have no power at all over natural causes and effects, but onely one particular effect may have some power over another, which are

> natural actions; but neither can natural causes nor effects be overpowred by man so, as if man was a degree above Nature, but they must be as Nature is pleased to order them; for Man is but a small part, and his powers are but particular actions of Nature, and therefore he cannot have a supreme and absolute power.[25]

One way that we can decrease the number of our desires that go unsatisfied is by neutralizing those to which the plenum is not amenable. In some passages, however, Cavendish speaks as though it is a structural feature that we are stuck with such desires. At the very least, she would be right to say that the neutralization of a desire, especially a strong desire, can be very difficult; if it is kept at bay, it will usually find expression somewhere else. We may not be able to neutralize certain desires, and perhaps there are some that we cannot even mitigate. She proposes an alternative and supplementary route to fulfillment: we enter into imaginary worlds in which we are able to fulfill our desires, and in which the recalcitrance of the plenum cannot play as much of a role. In her own case, Cavendish speaks of writing as an entrance into worlds in which she is free to roam as she pleases:

> SWift, ever-moving *Time,* I write to thee,
>
> To crave thy *pardon,* if ill spent thou be.
>
> But I did chuse this way, thinking it best:
>
> For by my writing I do none molest.
>
> I injure none, nor yet disturb their way,
>
> I slander none, nor any one betray.
>
> …Ile tell thee *Time,* thou mayst bee worser spent,
>
> In wanton waies, which some call Merriment.
>
> Let me tell thee, this better pleaseth me,
>
> Then if I spent thee in fine *Pageantry*.[26]

Cavendish will encourage us to inhabit alternative worlds by additional means as well. If we attempted to modify our desires to the point that we want things to be just as they are, we would likely fail, and if *were* successful, we would be losing out on the pleasure that comes with satisfying those desires in a world of fancy. There is (at least) one respect in which Cavendish supposes that we are very different from non-human animals: the internal motions of our mental life are very active, and we have the wherewithal to harness these to craft worlds in which things unfold exactly as we please.

Retreat to fancy

Cavendish contends that a life that includes a rich dose of fantasy has a better chance of yielding pleasure than a life in which we rely for pleasure on the behavior of the bodies that surround us. In a piece entitled "Similizing the Head of Man to the World," she writes of the way in which a person's mind is able to craft a world – and craft what is just as much a world as the one that we encounter in the plenum. She says,

> As twinckling *Stars* shew in dark *Clouds,* that's cleare,
> So *Fancies* quick do in the *Braine* appeare.
> *Imaginations,* like the *Orbes* move so,
> Some very quick, others do move more slow.
> And solid *Thoughts,* as the twelve *Signes,* are plac'd
> About the *Zodiack,* which is *Wisedome* vast.
> Where they as constantly in *Wisedome* run,
> As in the *Line Ecliptick* doth the *Sun.*
> To the *Ecliptick Line* the *Head* compare,
> The illustrious *Wit,* to the *Suns* bright *Spheare.*
> The *Braine,* unto the *Solid Earth,*
> From whence all *Wisdome* hath its *Birth.*
> Just as the *Earth,* the *Heads* round *Ball,*
> Is crown'd with *Orbes Coelestiall.*
> So *Head,* and *World* as one agree;
> *Nature* did make the *Head* a *World* to bee.[27]

In the imaginary worlds that we craft and inhabit, we encounter objects and persons, along with their desires and interests and goals. We could instead attempt to craft worlds from bodies that are composed largely of sensitive and inanimate matter – the matter that composes much of the external world – but those kinds of matter are not as manipulable.[28] They are slow to take on the forms that we prefer, but the matter that composes an idea is fluid and agile. Rational matter combines into worlds that are trusty and pliant, and that give us more pleasure:

> Fancy [is] the Ground whereon the Poetical aery Castles are built. There is no such sweet and pleasing Compagnion as Fancy, in a Poetical head.[29]

> can there be more Happiness than Pease and Plenty? can there be more Happiness than in the Repose of the Mind and Contemplations of Thoughts?[30]

Cavendish assumes – quite plausibly – that a highly satisfying life is one in which we move with agility through a world that satisfies and supports us, and she supposes that we are in a position to move most agilely through worlds of imagination. A highly satisfying life, according to Cavendish, is one in which we find tranquility and repose, but also pleasure and satisfaction. There is plenty of trouble in a given life, but there is pleasure to be had, and we should enjoy it:

> Nature being Just in all her Works, hath Ordered them so, as what is Curious, Excellent, and Good, She hath Sparingly made, but what is Indifferent and Bad, She hath made Plentifully, Countervaluing the Worth of the One Sort, with the Quantity of the Other, as we may Observe, She hath made more Iron than Silver, more Silver than Gold, more Stones than Diamonds, more Weeds than Flowers… [B]ut because there is but a Little of that which is Good, shall not we Injoy it? …[A] Little Pleasure is of Great Value, being the most Delitious Sweets in Nature; but you will ask What is the Delitious Pleasure? I Answer, all that is Pleasure, is Delitious…[31]

One response to the recalcitrance of the plenum is to go to battle with it, even if we are destined to lose. A better response is to forge alternate routes to pleasure. We do not benefit from confirming that the plenum has the power to crush us, and the trajectories of fancy can be crafted to order.[32]

Cavendish speaks highly of the experience of pleasure, and she supposes that the life of the poet involves the most pleasure of all. Poets participate in worlds of imagination and fancy, and they embellish their experience of the actual world as well.[33] That is, they live a sort of hybrid existence: they inhabit worlds of fancy, and their experience of the actual world is *informed* by fancy. In a poem entitled "Poets have most Pleasure in this Life," she writes,

> *NAture* most *Pleasure* doth to *Poets* give;
> If *Pleasures* in *Variety* do live.
> There every *Sense* by *Fancy* new is fed,
> Which *Fancy* in a *Torrent Braine* is bred.
> Contrary is to all that's borne on *Earth,*
> For *Fancy* is delighted most at's *Birth.*

What ever else is borne, with *Paine* comes forth,
But *Fancy* needs not time to make it grow,
Hath neither *Beauty, Strength,* nor perfect *Growth.*
Those *Braine* like *Gods,* from whence all things do flow.[34]

Cavendish engages in poetic activity herself, and she thinks that all of us would benefit from partaking to the extent that we are able. Poets serve as a model for the rest of us – beings who encounter a world that is not as they would like it, and who do not have the wherewithal to change it to their specifications. A poet is able to embellish their experience of the world by the contribution that they make to it, but so can a farmer, a peasant, and anyone else who is suitably situated and inclined:

> Poets get Fame, and Farmers Wealth, the One by their Wit, the Other by their Experience, the One by Imagination, the Other by Practice, for a Clown or Peasant Gains more Knowledge by his Practice, than a Poet by his Contemplations; but when Practice and Wit are joyned together, they beget Wisdome and Wealth, the One being Adorned with Gold, the Other Inthroned with Fame, for Emperours have Ascended from the Plough, and Kings from the Sheep-coats, Converting their Plough-sherds to Thrones, their Sickles to Crowns, and their Sheep-hooks to Scepters.[35]

Poetic minds are able to have a more ornate experience of the plenum by virtue of the wit and creativity that they bring to it. With practice and wit "joined together," the poet can convert a plough into a throne, a sickle into a crown.[36] A poetical mind has a more interesting experience of the plenum than the experience that the plenum serves up on its own.

A poetical mind is also able to escape into domains in which it is free to proceed as it pleases. It is able to escape into worlds that are not "subject to outward Sense," and that suit its needs to order:

But Nature is the Hand to guide
The Pencil of the Brain, and place
The Shadows so, that they may hide
All the Defects, or giv't a grace.
Phansie Draws Pictures in the Brain,
Not subject to the outward Sense;
They are Imaginations vain,

Yet are they the Life's Quintessence.[37]

THe *Brain* is the *Elysian* fields; and here
All *Ghosts* and *Spirits* in strong dreams appeare.
In gloomy shades sleepy *Lovers* doe walke,
Where soules do entertain themselves with talke.
And *Heroes* their great actions do relate,
Telling their *Fortunes* good, and their sad Fate;
What chanc'd to them when they awak'd did live,
Their World the light did great *Apollo* give;
…But those that strive this happy place to seek,
Is but to goe to bed, and fall asleep.[38]

The inhabitant of fictional worlds will lead a somewhat solitary life, but his engagements with the actual world will be more interesting – more adorned and embellished.[39] Poets (and poetical minds) are not just good company, Cavendish supposes, but "are the best Companions to life."[40] They are a pleasure to be around, and they experience an unusual amount of pleasure themselves. They live a life that is second to none:

> Poets the lovers of the Muses, and the Muses lovers of the Poets, oftimes chooseth a soletary life, as being a Paradise, for Innocent delight, wherein the Senses lyes on soft banks of repose…; the Children of the mind, in harmless sports, doth with the Muses play, and on their heads Garlands of Phancy wear, made all of Rhetoricks choisest flowers, whose Cullours fresh and gay, thus are the thoughts adorned and deckt, as the fair Month of *May*; about this paradise, which paradise is a soletary life, the calm smooth River of safety flowes, which Winds, or Circles in the life, from suffering, or acting injury, or wrong: And from this River of safety, runs many streams of pleasures, wherein the mind refreshing Bathes, secure and free.[41]

> And certainly, the Parts of the Mind have greater advantage than the Sensitive Parts; for, the Mind can enjoy that which is not subject to the Sense; as those things Man names, *Castles in the Air,* or *Poetical Fancies*; which is the reason Man can enjoy Worlds of its own making, without the assistance of the Sensitive Parts; and can govern and command those Worlds; as also, dissolve and compose several Worlds, as he pleases…[42]

There is no guarantee that the actual world will satisfy our desires and our needs; we do not owe it our undivided attention just for the sake of principle.

It stands in our way, but selective attention to fancy results in unprecedented freedom and unprecedented pleasure.[43]

Cavendish also reflects that real life pales in comparison to fancy through some of the fictional characters in her plays. In "Of Two Ladies with different Humours," we find an exchange between a stoic and a gossip. First, we learn a little about the two characters:

> THERE were two young Ladies bred together; the one proved a *Stoick,* living a retired life; the other proved a *Gossip,* her Head being full of vain Designs, her Tongue full of idle Discourses, her Body busily-restless, running from place to place, spending her life in fruitless Visits, and expensive Entertainments; gleaning up all the News of the Town; and when she had gathered up a Bundle, or Sheaf, of this unprofitable Grain, her Custom was to come and thresh it out with the Flail of her Tongue, at the Door of the other Lady's Ears; which she, although with great inconvenience, suffered, by reason of their long acquaintance, which many times breeds a kind of friendship, although between different Humours, Natures, and Dispositions: for Custom of Acquaintance begets some small affections even in the most obdurate hearts.[44]

Clearly Cavendish privileges the stoic here, and we would expect as much given the arguments of her larger corpus. In general, she admires creatures who do not immediately tire of what they already have, and who find a way to extract pleasure from it. The gossip instead moves from one thing to the next, busy and restless, "running from place to place." This person is not fulfilled by what she is doing, and she is not fulfilled by what she will do next. The stoic exhibits patience toward her friend, but also advises her to consider a different course. The stoic has made a practice of accepting that the actual world will not meet her desires and needs, and instead of confronting the plenum and resisting it, she retreats to satisfying bouts of poetical imagination. The gossip will do no such thing:

> But this *Stoical* Lady did comply so much with her Friend's humour, as to give her the hearing, although she would often advise and perswade her to that course of life she lived; which course of life the other Lady would often dislike, and speak against, saying, That Solitariness was a Grave that buried the Life; and, that a Contemplatory Mind was a Tomb, wherein lay nothing but insipid Thoughts.
>
> The other Lady said, That Solitariness was a Paradice of true Happiness; and, that Contemplation was a Heaven of Fruition: for in Imagination (said she) we enjoy all things with ease, and as we will; whereas in Action we find great disturbance and opposition; are cross'd in every thing, and enjoy nothing.[45]

Here the stoic insists that imaginary worlds are able to offer us a level of pleasure and satisfaction that the actual world often is not. We could resent the actual world, and attempt to combat its recalcitrance, but that would not be the best strategy for maximizing pleasure: in the actual world, we are "cross'd in every thing, and enjoy nothing," and a hopeless and painful battle against it would leave us worse off further still. Imaginary worlds are different; they provide a steady stream of pleasure. The wisest course of action is thus to appreciate that the actual world provides us with only so much freedom to pursue our desires and goals, and that imaginary worlds are more inviting. Cavendish's stoic finds pleasure in contemplation, but she is otherwise a pillar of equanimity:

> But the *Stoick*-Lady, as she bare her Misfortunes patiently, so she lived quietly, making her Necessities a School of Wisdom, where Truth taught, and Judgment corrected; wherein she learned neither to be credulous, nor obstinate; not to believe every report, nor to reject all reports; but setled her self, if good came, so; if not, she knew how to suffer without repining at that which could not be avoided nor amended.[46]

"Of Two Ladies with different Humours" presents a strong endorsement of the view that the most suitable life for a person is to go with the grain of the recalcitrant plenum and seek pleasure in imaginary fancy. The Stoick-Lady is tranquil and measured, but she is not passionless. She fulfills her most extravagant desires, but in a realm that is amenable.

A similar figure appears in "The Lady Contemplation." The main character – Lady Contemplation – seeks to escape her housewifely duties and become a victorious military general. In the light of the similar themes of *Bell in Campo*, success will be difficult to impossible in the actual-world plenum: Lady Contemplation would need to acquire the relevant training, but it is unavailable to her, and she would require soldiers who act on her authority without question. Her escape unfolds in a different realm: she constructs an imaginary world in which her husband is a general, captured in battle, and she takes over his command with the full backing of his army. This would not be so likely to occur in the actual-world plenum of seventeenth-century England, but it happens easily in a world in which the surrounding plenum is different, and made to order:

> I did imagine my self Married, my Husband being a General of an Army, who had fought many Battels, and had won many Victories, conquer'd many Nations, at last an unfortunate day of Battel being fought, my Husband being too active and venturous, making lanes of slain bodies as he went…; and being in the midst of his Enemies Army, his Enemies seeing him fall, ran about him in great numbers,

and so took him prisoner… [S]ome of my Husbands Officers of the Army told me, That though the Day was lost, yet there was a considerable Body left; which I no sooner heard, but my spirits took new life, and then excusing my fear, told those Commanders it was not through fear that made me run out of my Tent; for I did not fly from my Enemies, but to them, and that I sought death, and not life; and to express my courage, I told them, That if they would give me leave, I would take my Husbands Office, and lead the Army: They told me, that if the rest of the Commanders would agree to it, they were well contented: So when all the Commanders met together, I spake thus unto them.[47]

Lady Contemplation makes an inspiring speech to the commanders, and that is enough of a basis for them to agree to her request. She takes the reins, and the army is victorious. In retelling the story to her friend Lady Visitant, Lady Contemplation declares that imaginary fancies of this sort are the peak of her existence:

> I kill'd the General of the Enemy with my own hand, and how I releas'd my Husband, and of such gallant Acts as you never heard the like of. …[L]et me never contemplate more, which would be worse than death to me, by reason it is the onely pleasure of my life.[48]

Lady Contemplation is not thereby suggesting that her life is pathetic or unenviable, however. She gets extraordinary mileage from her adventures in poetical fancy, and she prefers these to the situation in which she finds herself in the actual world. She might prefer the actual world if it was very different, but it is not, and so she doesn't:

VISITANT: What Lady *Contemplation,* musing by your self alone?
CONTEMPLATION: Lady *Visitant,* I would you had been ten miles off, rather than to have broken my Contemplation…
VISITANT: Prethee let me know those pleasing thoughts.
CONTEMPLATION: I did imagine my self such a Beauty, as Nature never made the like, both for Person, Favour, and Colour, and a Wit answerable to my Beauty, and my Breeding and Behaviour answerable to both, my Wisdome excelling all: And if I were not thus as I say, yet that every one should think I were so; for opinion creates more, and perfecter Beauties, than Nature doth. And then that a great powerful Monarch, such a one as *Alexander,* or *Caesar,* fell desperately in love with me, seeing but my Picture, which was sent all about the world; yet my Picture (I did imagine) was to my disadvantage, not flattering me any wayes; yet this Prince to be inamoured with this shadow for the substance sake: Then Love perswaded him to send me his Picture, which represented him to the life,

being extreamly handsome, yet had a manly and wise countenance. This Picture being brought by Embassadours, which Embassadours when they came, treated with me about marriage with this sole Emperor, all other Kings and Princes being but Tributaries; receiving these Embassadours with great civility and respect, yet behaving my self with a reserved and Majestical behaviour, which the Embassadours observing, said, I was the only Lady that was fit to be the only Emperours wife, both for my Beauty, Carriage, and Wit: When after a modest Fear, and seeming Humility, I had reason'd against the marriage, at last by their perswasion I consented…[49]

Lady Contemplation speaks with unmitigated excitement about the fictional worlds that she inhabits. They contain "perfecter Beauties, than Nature doth," and she is able to navigate them seamlessly and with pleasure. She protects them, taking issue with any distractions (like Lady Visitant) that might pull her away. Plato and other historical advocates of contemplation highlight the pleasure of turning away from the actual world – and toward the more perfect beauties that we would thereby encounter – but of course Plato and Cavendish could not agree less on the details of the contemplation in question.[50] They do agree, however, that the actual world is not up to the task of meeting our deepest desires and that there is no shame in turning our attention elsewhere. Cavendish takes worlds of imagination to be much more satisfying than the world that the plenum has to offer.[51] She stands toward episodes of fancy in something like the way that a person stands toward a novel to which they long to return, or which they are reading in a noisy and boisterous environment. The world of imagination is where they prefer to be, at least for the moment: to be immersed and absorbed in an escape from what surrounds them.

Lady Contemplation supposes that fictional worlds are in many respects superior to the actual world. Not only does the plenum frustrate many of our aims and desires, but for any pleasures that we *do* experience in real life, imagination can always do one better:

VISITANT: Well, well, I had rather have the Material world, than you Airy Fictions. – But confess really to me, if you should not think your self accurst if you were to have no other Lovers, but what your Fancy creates.

CONTEMPLATION: No truely, for I finding none so exact as my Fancy creates, makes all men appear worse than they are: For imagination doth like *Painters,* which takes all the gracefullest lines, and exactest Features from two or three good faces, and draws them into one: this is the reason that there may be handsomer Pictures drawn, than any Creature born; because, Nature distributes and divides her Favours, as to the generality, when Painters contract them into particulars; for there was never any, unlesse born as a wonder, that hath no exceptions; besides, my Lovers which my

> Fancy creates, never make me jealouse, nor never disturb me; come to me, and goe from me; speak or are silent as I will have them, and they are behaved, qualified, and adorned to my humour, also of what Birth, Age, Complexion, or Stature I like best; thus their persons and souls are created in my brain, live in my Contemplation, and are dead and buryed in my forgetfulnesse, but have a Resurrection in my remembrance.
>
> VISITANT: Prethee do not lose the pleasure of the World, for the sake of dull Contemplation.
>
> CONTEMPLATION: Why, the greatest pleasures that can be in Fruition, I take in Imagination: for whatsoever the sence enjoyes from outward objects, they may enjoy in inward thoughts. For the mind takes as much pleasure in creating of Fancies, as Nature to create and dissolve, and create Creatures anew: For Fancy is the Minds creature, & *imaginations* are as several worlds, wherein those Creatures are bred and born, live and dye; thus the mind is like infinite Nature.[52]

For Cavendish, an imaginary world is literally a world, and one over whose developments we have a lot more say.[53] We get to enjoy the material bodies that compose it, and we also experience the rush of being a creator.[54] We should not downplay the status or standing of an imaginary world, she thinks, just because we direct the behavior of its constituents. If we had just as much power and authority over bodies in the *actual* world, we would not dismiss our pleasure just because it was largely up to us. We should weight the pleasures of imagination just as heavily. The actual world lets us down, Lady Contemplation insists, and we do not owe it our attention just because it is actual. We are not under any obligation to privilege the sensory images that form as a result of our encounters with it, and we would be wise to take matters into our own hands. Later in the play, she has an exchange with yet another naysayer:

> LADY CONVERSATION: Who that may choose, or have their liberty, would spend their time in idle thoughts?
>
> LADY CONTEMPLATION: All that are wise, and would be happy; for should not we think that man were mad, that leaves a peaceful habitation, and thrusts himself in forein broyls? or should not we think a King were most unjust, that makes his peaceful and obedient subjects slaves to strange Princes? The Mind's a Common-wealth, and the Thoughts are the Citizens therein, and Reason rules as King, or ought to doe: But there is no reason we should vex our Thoughts with outward things, or make them slaves unto the world.
>
> LADY CONVERSATION: But thoughts would want imployment, were it not for the world, and idlenesse were worse than slavish toyls.
>
> LADY CONTEMPLATION: The thoughts, without the worlds materials, can Create millions of worlds, only with the help of Imagination.

LADY CONVERSATION: Then your Minde and the World are meer strangers.

LADY CONTEMPLATION: I say not so; for though the World draws not my Minde to wander up and down, yet my Minde draws the World to it, then pensils out each several part and piece, and hangs that Landskip in my Brain, on which my thoughts do view with Judgments eyes. Thus the world is in my Minde; although my Minde is not in the world.

LADY CONVERSATION: Then you inchant the world?

LADY CONTEMPLATION: I had rather inchant the world, than the world should inchant me.[55]

As we have seen, Cavendish holds that generally speaking there is nothing in the intellect that was not first in the senses. She would not say that we can craft imaginary worlds ex nihilo; these tend to be rich and variegated, and we construct them in large part from ideas that are copies of sensory images. We need the plenum, but not because it supplies the only environment in which we can be content and fulfilled. We should not wait for the actual world to "inchant us," but like poets and artists we should enchant the world ourselves. We should make it something that it is not, and something that is more to our liking.[56]

A proper substitute for real life?

At this point we might begin to worry that Cavendish has gone off her rocker. She is contending that imaginary worlds provide just as much fulfillment and satisfaction as the actual world, and she appears in fact to hold that they provide more. She does not say a lot by way of explicit defense of her view here; indeed, the bulk of her defense is just to describe specific pleasures of imagination as extraordinary. However, there are systematic reasons that appear to be driving her thought.

One of the presumptive reasons why she has such a high regard for fictional worlds is that she is committed to saying that there is a sense in which they are not a lot more fictional than the actual world. Given her epistemology and her views on the limits of perception and cognition, she holds that our waking sensory perceptions are accurate but radically incomplete. We notice bodies that are immediately relevant to our interests, and our perceptions of these (she assumes) are trustworthy, but there are also numerous bodies that we do not notice and that lie between the bodies that we do. There is no empty space, and there is much that we miss in our copies of external objects, even if what we copy is actually there. Imaginary worlds are no doubt fictional, but if we proceed in the *actual* world as though the small amount of information that we take in about situations, objects, and persons is more or less complete, our experience there is somewhat fictional as well. One of the reasons why Cavendish might be so quick to accept worlds of imagination as an acceptable substitute for the actual world is that she takes our experience of the latter to be a kind of fiction also.

Another consideration that appears to be driving Cavendish's embrace of imaginary worlds is from her theory of ideas. For Cavendish, imaginary worlds are existent material structures. They are miniatures of the sorts of things that exist outside of our thought; they are just composed of a higher percentage of rational matter.[57] They are real; they are just different, and they are different in a way that may not be all that important. She writes,

> Fancies and Imaginations are not No-things, but as perfectly imbodied as any other Creatures; but by reason, they are not so grosly imbodied, as those creatures that are composed of more sensitive and inanimate matter, man thinks or believes them to be no bodies; but were they substanceless figures, he could not have them in his mind or thoughts: The truth is, the purity of reason is not so perspicuous and plain to sense, as sense is to reason, the sensitive matter being a grosser substance then the rational.[58]

When we engage in an act of imagination, we are attending to configurations of bodies. In some cases, these configurations are copies of configurations that exist outside us, and in other cases they are configurations that we have assembled ourselves. Imaginary configurations are smaller than the external bodies that we come to know through our senses, but our experience of them is proportioned to scale.

Cavendish adds for good measure that it is bodies of just this sort with which we are acquainted in *non*-imaginary experience. Bodies are out there, she assumes, but what we encounter in sense perception are images that are copies of these. Imaginary experience and waking experience are barely distinguishable, she thinks, but not just because they can be difficult to tell apart.[59] They are barely distinguishable because the immediate objects of perception are the same in each:

> WHen the Figures of those Friends and Acquaintants that have been dead a long time, are made in our Sleep, we never, or seldom question the truth of their being alive, though we often question them how they came to be alive: And the reason that we make no doubt of their being alive, is, That those Corporeal Motions of Sleep, make the same pattern of that Object in Sleep, as when that Object was present, and patterned awake; so as the Picture in Sleep seems to be the Original awake: and until such times that the Corporeal Motions alter their Sleeping-Actions to Waking-Actions, the truth is not known. Though Sleeping and Dreaming, is somewhat after the manner of Forgetfulness and Remembrance; yet, perfect Dreams are as perceptive as Waking-patterns of present Objects; which proves, That both the Sensitive and Rational Motions, have Sleeping Actions; but both the Sensitive and Rational Corporeal Actions in Sleep, moving partly by

rote, and partly voluntarily, or by invention, make Walking-Woods, or Woodden Men; or make Warrs and Battels, where some Figures of Men are kill'd, or wounded, others have victory: They also make Thieves, Murderers, falling Houses, great Fires, Floods, Tempests, high Mountains, great Precipices; and sometimes pleasant Dreams of Lovers, Marriage, Dancing, Banquetting, and the like: And the Passions in Dreams are as real, as in waking actions.[60]

Cavendish supposes that whether we are awake or asleep, whether we are hallucinating or perceiving things as they are, what we are acquainted with directly is an imagistic idea that is a miniature of the kinds of object that surround us.[61] She accordingly treats imaginary experience as on a par with waking experience. These are not exactly the same, but they are similar enough:

> *I* by discourse can represent the *Mind,*
>
> With severall *Objects,* though the *Eyes* be blind.
>
> *I* can create *Ideas* in the *Braine,*
>
> Which to the *Mind* seem reall, though but fain'd.
>
> The *Mind* like to a *Shop* of *Toies I* fill,
>
> With fine *Concerts,* all sorts of *Humours* sell.
>
> *I* can the work of *Nature* imitate;
>
> And change my selfe into each severall *Shape.*
>
> *I* conquer all, am *Master* of the *Feild,*
>
> *I* make *faire Beauty* in *Loves Wars* to yeild.[62]

Imaginings "seem reall, though but fained." We might require a lot of practice to get to the point where imaginings seem exactly real, but Cavendish is suggesting that we can indeed get there in due time. She also supposes that in cases wherein imaginary experience is less vivid and more faint, it is still rich enough with respect to its other offerings that it is more than able to compensate. She writes,

> can we Injoy any thing so Easily, Freely, Suddenly, without Actual Trouble, as we do in Dreams? or can we be Quit of all Sorts and Kinds of Trouble and Labour, but by Sleep? Wherefore, if Dreams were but more Constant and of Longer Continuance, and that we should alwayes Dream Pleasing Dreams, the Greatest Happiness, Next to the Blessed Life in Heaven, were to Sleep and Dream, for it would be much more Pleasant than the Elyfian Fields. The Next

> World and Life that were to be Preferr'd, were the Poetical World, and Contemplative Life, but all the Senses are not Sensible in the Contemplative Life, whereas all the Senses are as Sensible in the Dreaming Life, as Awake; the truth is, the Poetical World, and Contemplative Life, is rather a World for the Thoughts, and a Life for the Mind, than the Senses, yet if the Senses were as Sensible in Contemplation as in Dreams, it would be the Best Life of all, because it might make the Life what it Would, and the Pleasures of that Life to Continue as Long, and to Vary as Oft as it Thought Good, and for the Poetical World or rather Worlds, they would be a Delight to View as well as to Live in.[63]

The text here is quite striking. The very best life is one that is not actually available to us – a life that consists of a constant and pleasant dream. If we could pull that off, our sensory experience would be just as vivid and pronounced as in waking perception, but we would not have to contend with all of the attendant hardship and pain. The next best life is the life of contemplation – in the non-Platonic way that Cavendish conceives it – and below both of *these* is a life in which we depend for our pleasure on the behavior of the bodies that surround us. If the plenum is recalcitrant to our desires and goals, we do not owe it the courtesy of attending only to the images that it produces. We would be better off to focus on images that are sometimes more faint but that are more pleasant and satisfying. To pick up the example from before, we might be fully engaged in a book – we enjoy our time in the world that it makes possible, even if we do not perceive its contents in the same vivid manner in which we sense the bodies of the actual-world plenum. Cavendish supposes that we can be absorbed and engrossed in other worlds of fancy just as well.

Fame

Cavendish subscribes to the view that there are tremendous benefits in retreating to imaginary worlds of fancy. The view is systematically connected to her doctrine that ideas are material structures: in effect, they are miniatures of the configurations that surround us in the plenum. The view is also systematically interconnected with her understanding of the human desire for fame. Cavendish supposes that a desire for fame is a desire for a kind of continued existence – a literal existence – in the minds of others. She writes,

> For Fame doth all, and whose name she is pleased to record, that man shall live, when others, though of no less worth and merit, will be obscured, and buried in oblivion.[64]
>
> I verily believe, that Ignorance, and present Envy, will slight my Book; yet I make no question, when Envy is worn out by Time, but

> Understanding will remember me in after Ages, when I am changed from this Life: But I had rather live in a General Remembrance, than in a Particular Life.[65]

In the first passage, Cavendish says of those who secure fame that they live when others are buried in oblivion. In the second passage she says that when she dies herself, she will be "changed from this Life," but will continue to live in a general remembrance, and a remembrance that is preferable to the existence that she enjoys now. No doubt she is gesturing at her view that the actual-world plenum leaves much to be desired, but she is also treating the material copy of herself that exists in the minds of others – and that is made for the most part of active, rational matter – as an extension of her own existence.[66] She speaks of individuals as living in fame in other passages as well:

> the difference betwixt man and beast, to speak naturally, and onely according to her works without any Divine influence, is, that dead men live in living men, where beasts die without Record of beasts; So that those men that die in oblivion, are beasts by nature…[67]
>
> So the Self-moving Parts of a Human Creature, being associated, love one another, and therefore do endeavour to keep their Society from dissolving. But perceiving, by the example of the lives of the same sort of Creatures, that the property of their Nature is such, that they must dissolve in a short time, this causes these Human sorts of Creatures, (being very ingenuous) to endeavour an after-life: but, perceiving again, that their after-life cannot be the same as the present life is, they endeavour (since they cannot keep their own Society from dissolving) that their Society may remain in remembrance amongst the particular and general Societies of the same sort of Creatures, which we name *Mankind*: And this Design causes all the Sensitive and Rational Parts, in one Society, to be industrious, to leave some Mark for a lasting Remembrance, amongst their fellow-Creatures: which general remembrance, Man calls *Fame*; for which *Fame,* the Rational Parts are industrious to design the manner and way, and the Sensitive Parts are industrious to put those Designs in execution; as, their Inventions, into Arts or Sciences; or to cause their Heroick or Prudent, Generous or Pious Actions; their Learning, or witty Fancies, or subtile Conceptions, or their industrious Observations, or their ingenious Inventions, to be set in Print; or their Exterior Effigies to be cast, cut, or engraven in Brass, or Stone, or to be painted; or they endeavour to build Houses, or cut Rivers, to bear their Names; and millions of other Marks, for remembrance, they are industrious to leave to the perception of after-Ages: And many men are so desirous of this after-life, that they would willingly quit their present life, by

> reason of its shortness, to gain this after-life, because of the probability of a long continuance; and not only to live so in many several Ages, but in many several Nations. And amongst the number of those that prefer a long after-life, before a short present life, I am one. But, some men dispute against these Desires, saying, That *it doth a man no good to be remembred when he is dead.* I answer: It is very pleasing, whilst as man lives, to have in his Mind, or in his Sense, the Effigies of the Person, and of the good Actions of his Friend, although he cannot have his present company. Also, it is very pleasant to any body to believe, that the Effigies either of his own Person, or Actions, or both, are in the Mind of his Friend, when he is absent from him; and, in this case, Absence and Death are much alike.[68]

If Cavendish is saying that existence in the minds of others is preferable to our regular earthly existence, she is expressing a view that is odd. However, the view is not *that* odd, at least if we think of it in the context of her larger system. When an individual perceives someone, according to Cavendish, there forms in the individual's mind an image of the person that captures and depicts some of their characteristics. The more that the individual then detects of the person – perhaps over a long stretch of time – the more that their idea would incorporate the details of the person. Since ideas are composed primarily of active rational matter, according to Cavendish, an idea of the person might eventually become a kind of doppelganger of them. The (active) idea might come to exhibit many of the behaviors and characteristics of the person; in some sense, it would be the person existing in thought.

For example, the idea might express itself in dreams and bouts of imagination. Cavendish thus speaks of how someone might enjoy to "have in his Mind, or in his Sense, the Effigies of the Person, and of the good *Actions* of his Friend, although he cannot have his present company."[69] If such effigies are made primarily of rational matter, they would not be static pictures; they would be active, and would to some degree have a life of their own. So long as the collection of bodies in question depicts a person, Cavendish might say, and is composed of active rational matter, it is a version of the person. To be sure, we may not be aware of these versions of ourselves that inhabit other minds, and we may not be aware of their activities, and so it might seem odd to say that it is *us* living in another mind. But Cavendish supposes that in our actual embodied lives there is much that we do not know about ourselves either.[70] She might then add that, whether we are correct to do so or not, we at the very least *behave* as though our fame and reputation are an extension of our actual existence.[71] We do not like it when another person has or disseminates an idea of us that presents us in a light that we reject; we do not like it even if we know that we will not be thereby affected.[72]

There are a number of potential problems that arise for Cavendish's view of imaginary worlds and their role in human life. One potential objection is that

she is mistaken to suppose that fictional worlds can serve as an adequate substitute for real life. Here we might recall the thought experiment presented by Robert Nozick: we are told that we will be hooked up to a virtual reality machine for the rest of our lives, and our two options are to have an experience in which we and our loved ones prosper, while in reality they suffer, or to have an experience in which they (and we) suffer, while in reality they flourish.[73] Many of us feel the pull of opting for the latter, and if so we suppose that our experience is not all that matters. Another way of making the point is to note that we do make a distinction between dreams or hallucinations, on the one hand, and real life on the other, and we are often disappointed when we discover that our perceptions were just perceptions and nothing more. Later in the eighteenth century, Berkeley will argue that it is the fault of philosophers if we are disappointed at the prospect that the objects of perception do not exist mind-independently.[74] Cavendish herself seems to suppose that we will not be disappointed if the objects of our perceptions do not exist mind-independently, so long as the imaginary worlds that we inhabit are sufficiently rich and compelling. Perhaps she would say that the reason that we are disappointed when we find out that a perception is hallucinatory is that we register that it is short-lived and fleeting. Perhaps we make the assumption that all imaginary worlds are like that, and we reject Cavendish's view wholesale. But she thinks that we can get over that assumption fairly easily. We are in charge of constructing at least some imaginary worlds, and these tend to be available as often as we would like.

A similar objection is that Cavendish is mistaken to suppose that our experience in imaginary worlds can be as rich and rewarding as our experience in real life. She does allow that our perceptions are not always as vivid in imaginary worlds, and so she recognizes that the two kinds of experience are often different, and perhaps she should recognize that there are other respects in which imaginary experience falls short as well. Cavendish has at least three lines of response to this objection. One is to speculate that generally speaking the capacities by which human beings construct imaginary worlds have not been developed in full: if they were, and if imaginary worlds were given a full run for their money, we would find them to be no less fulfilling than Lady Contemplation does. We would just need to fully commit. A second line of response that Cavendish would offer is to say that her view does not require that our experience of imaginary worlds be congruent with our experience of the actual world. The two kinds of experience do not need to be as vivid, and they do not even need to be all that similar. For example, we might imagine a person who lives a trying existence at work, but who is able to retreat to the theater on a regular basis. This person is sitting and watching, and in an important sense is not actually living the scenes on stage, but it would be hard to feel sorry for her if she identified as a theater-goer and enjoyed a number of performances a week. Perhaps she is able to explore her experience even further, with a companion or in print. In a similar case, a

person might live a fairly difficult existence but have the resources to become engrossed in novels and books. Her day unfolds, and she is desperate to return to these on every occasion possible. Her life might not be as fulfilling as that of a person who has things easier, but Cavendish is supposing that in many cases that is not the relevant comparison class.

A third and related line of response that Cavendish might present to the objection is that it does not hold constant just how stifling the actual-world plenum can be, and how little pleasure most are able to glean from it. In the next chapter we will consider Cavendish's view on the tendency of human beings to be vicious and cruel toward one another: she thinks that this tendency is generally speaking a constant, and that most of us are not sufficiently lucky to escape its effects. We might object to her view of imaginary worlds and the role that they play in human life, but if we object that the actual-world plenum is especially satisfying and amenable, she would say that we are taking a perspective that is either unrealistic or privileged.

Normativity and control

Another objection to Cavendish is that if she supposes that human beings do not have a libertarian ability to do other than what is dictated by their own motions and the motions of the bodies that surround them, it makes little sense for her to recommend that we take a stand against the plenum and inhabit fictional worlds instead. That is to say, if Cavendish is right we are always required to do exactly as the motions of the plenum dictate, end of story.

She has at least two responses available here. One is to note that her language is rarely normative. She describes those who partake of imagination as relatively content and happy, and those who do not as relatively miserable. She is describing such individuals, but she is not necessarily making claims about what they should do, and she is not stating that they are able to do other than what their internal motions (and the other motions of the plenum) prescribe. Cavendish uses the same type of language in her discussions of stoicism and the benefits of moderating expectation and desire. She asserts that a person would experience more pleasure and less frustration if they followed the lead of non-human animals, and in many cases she is presumably right. A wise person would behave in such ways, but that does not mean that everyone has the internal motions that make wise judgments possible.[75] Perhaps Cavendish's comparisons to animals are less an exhortation and call to action than they are a lament.

A second response that Cavendish would give to the objection is to take issue with the notion of libertarian freedom itself.[76] At any given moment, she would argue, there are the motions that are internal to a given body, and the motions of surrounding bodies, and there are no changes of motion that are not the joint product of these. If the internal motions of a body (in conjunction with surrounding motions) result in a certain effect, they can result in that

effect only: for the effect to be different, the prior motions would have to have been different, but if they were different, they would have resulted in whatever effect that *they* necessitated instead. Bodies have the motions that they do, Cavendish supposes, and we will take seriously her stoic recommendations only if we are properly configured and if the recommendations are in fact presented to us. We are free to take them on so long as we want to do so, and so long as nothing gets in our way. Libertarian freedom would make room for non-necessitation, Cavendish would have to admit; it would allow that we could have all of the same internal motions, and any number of states might follow. In that case, however, we would appear to be nothing more than a loose cannon. We might choose to embrace stoic recommendations, or we might not, but it is not clear that in either case we would have been in control of what we decided.[77]

A final question that arises at this point, and that has been implicit in earlier discussions, is whether or not Cavendish allows that there is any normativity at work in the plenum or in the aims and goals that its constituents strive to achieve. Extremely bad things do seem to happen, and beings (like us for example) take steps to try to make other things happen instead. There are earthquakes and tsunamis; there are diseases and epidemics; there is death and pain; there is rebellion and civil war. There are also calamities that are presumably less pressing – for example, the use of expressions like "immaterial finite spirit," and other pieces of language that (if Cavendish is right) are non-referential. Cavendish might seem to be inclined to say that such things are bad, and that we should guard against them, and that we should take steps to ensure that other purposes are met instead. Thus far I have argued that she is committed to the view that there is a necessary connection between a cause and its effect and that, in a plenum, there is no possible way for things to unfold other than they do. There is no possible reality outside of the bodies of the plenum; there is simply no grid. There are epistemic possibilities that are a reflection of the limited information that we have about our surroundings, but these (imagistic ideas) are just bodies in the plenum as well. Cavendish is committed to saying that there is only one way that things can be at any given moment, and so she will not ever assert that things should be a certain way, or that there are aims and purposes that the constituents of the plenum should take on apart from the ones that it in fact does. She instead holds that the plenum is simply as it is. We do employ normative terms like "good" and "bad," but these are just a reflection, from our own point-of-view, of how the plenum accommodates our interests and concerns. Different constituents of the plenum are competing with each other to maintain their respective proportions of motion, and that is that.

This is a theme that recurs throughout the Cavendish corpus. As we have seen, she holds that strictly speaking there is no disorder or irregularity in nature; the decay and destruction of particular beings is just among the things that happen as creatures struggle to remain in existence. A creature may

identify things as good or bad as a function of whether they bring pleasure to the creature, or help it to maintain its quantity of motion, but things are not good or bad *simpliciter*. Cavendish writes,

> as the Motions of Nature's life make diseases or irregularities, so they make that which man names dregs and filths; which dregs, filths, sickness, and death, are nothing but changes of corporeal motions, different from those motions or actions that are proper to the health, perfection and consistence of such or such a figure or creature. But, to conclude, there is no such thing as corruption, sickness, or death, properly in Nature, for they are made by natural actions, and are onely varieties in Nature, but not obstructions or destructions of Nature… [A]nd so is that we name Superfluities, which bear onely a relation to a particular Creature, which hath more Motion and Matter then is proper for the nature of its figure.[78]

In a section of *Philosophicall Fancies* entitled "No Judge in Nature," she says more generally that

> NO *Intreaty,* nor *Petition* can perswade *Nature,* nor any Bribes an corrupt, or alter the course of *Nature.* Justly there can be no complaints made against *Nature,* nor to *Nature. Nature* can give no redresse. There are no Appeales can be made…[79]

Nowhere in her corpus does Cavendish include qualities like goodness or badness among the qualities that are had by the constituents of the plenum. As we have seen, she includes qualities like size, shape, motion, and even color. There appears to be no room in her system to accommodate true judgments to the effect that things ought to be other than they are; normative judgments instead are a reflection of the interests and concerns of the beings that make them.[80] There are some isolated passages in which Cavendish speaks of material nature as perfect, but what she means is something very reductive to the effect that material nature is wholly material, and unadulterated:

> I do not deny, but that there is a perfection in the nature or essence of Infinite Matter; for Matter is perfect Matter; that is, pure and simple in its own substance or nature, as meer Matter, without any mixture or addition of some thing that is not Matter, or that is between Matter and no Matter…[81]

The material universe is perfect, Cavendish says, but just in the sense that it is not intermixed with anything else. It is not perfect in the sense that it is better than other possible universes, and it is not perfect in the sense that it meets a standard that is separate from it.

There is no doubt something very worrisome about the view that things are neither good nor bad, but just are as they are. By the end of her life, Cavendish herself will take issue with a number of the aspects of the plenum in which she finds herself – in particular, the way in which it affords limited possibilities to women, and the way in which it allows for civil war.[82] She would appear to want to say that these are *bad*. Here I suspect that she might be a bit conflicted, but in the final analysis her official position is that what it is for a being to identify a situation or eventuality as good or bad is to take a stand on whether or not it serves that being's interests and concerns. Cavendish cannot hold that there is a fact of the matter to the effect that there is something bad about the death of an individual, even one's own self; nor can she hold that there is something that is literally bad about the destruction of an entire human society. When such things occur, they are just among the things that happen: the plenum consists of a wide spectrum of individuals that are striving to preserve themselves in existence, and these individuals compete with each other in such a way that the achievement of the aims and goals of the one sometimes leads to the destruction of the other. In passages where Cavendish herself takes issue with structural constraints imposed by the plenum, or in passages (in her plays and elsewhere) where she depicts scenarios that do not obtain but that would help us to survive or to experience more satisfaction or pleasure, all that she can be doing is describing our lot. She fleshes out the variables that interfere with a person's satisfaction and fulfillment; she describes the steps that a person would have to take if they are to experience less frustration. As we have seen, her language is almost exclusively descriptive: she speaks of what the wise person does, and what the person does who is foolish. In chapter six, there was a discussion of Cavendish's views on the way in which the plenum can be constraining to an individual's aims. In the current chapter, there has been a discussion of her stoicism. All of these views are informed by her view that there is no possible way for things to be, other than the way that they are.

Notes

1 "The Nature of Man," *WO*, 84.
2 *NP*, 81. See also *WO*, 210: "All Men that may live quietly at home, and travel to no purpose, or that neglect their own Affairs to follow the Affairs of other Men, or decide those Mens Quarrels they shall have no thanks for, or live upon hopes of great Fortunes, of high Favours, when they may feed upon present Comfort, and enjoy humble Delights in that Estate and Condition they possess, shall wear a Fools Cap, and a Motly Coat."
3 "Nature's Three Daughters," *Playes*, 512.
4 "The vastness of desires," *WO*, 40.
5 *OEP*, "Further Observations Upon Experimental Philosophy," 86. See also "Of Humility," *Poems and Fancies*, 94.
6 "A Dialogue Between an Oake, and a Man cutting him downe," *Poems and Fancies*, 69-70. See also "A Dialogue of Birds," 71.

7 *NP*, 150.
8 Note that this consideration applies to us as well. Cavendish cannot say that we should or shouldn't proceed in certain ways – at least not if that means contravening the causal order of the plenum. Instead, she holds that a person would be *wise* to proceed in certain ways, and foolish to proceed in others. There is a further discussion of this issue at the end of the chapter.
9 "A Dialogue of Birds," *Poems and Fancies*, 74.
10 "A comforting oration to a dejected people, ruined by warre," *ODS*, 52.
11 *NP*, 147–148.
12 "Difference Betwixt Man and Beast," *WO*, 140–141.
13 This suggestion follows straightaway from Cavendish's metaphysics and epistemology, but see for example "An Oration to stay the Souldiers from a Mutinous return from the Warrs," *ODS*, 35–37.
14 "The Ridiculous Malice Amongst Mankind," *WO*, 82–83.
15 *NP*, 82. See also *WO*, 34.
16 "Of Tranquillity," *Poems and Fancies*, 96-97.
17 "Of Moderation," *WO*, 35. See also *OEP*, 61–62: "[It is] observed in colours raised by Passions, as fear, anger, or the like, which will change not onely the complexion and countenance, but the very features will have some alteration for a short time, and many times the whole body will be so altered, as not to be rightly composed again for a good while; nay, often there follows a total dissolution of the whole figure, which we call death. And at all this we need not wonder, if we do but consider that Nature is full of sense and reason, that is, of sensitive and rational perception, which is the cause that oftentimes the disturbance of one part causes all other parts of a composed figure to take an alarum…"
18 "To Morall Philosophers," *Poems and Fancies*, 51. See also *SL*, Letter CII, 205–206.
19 See also Battigelli (1998), 114–115.
20 "A Dialogue Betwixt Man, and Nature," *Poems and Fancies*, 59.
21 *NP*, 149.
22 "The happy farmer," *WO*, 39.
23 "The Tale of a Traveler," *NP*, 530. See also "An Oration Against Idle Expenses," *ODS*, 217–218.
24 See also Webster (2011), 713–719.
25 *OEP*, 6.
26 "Epistle to Time," *PPO*, unnumbered. See also Stevenson (1996), 539-540; and Walker (1997), 341-351. Stevenson and Walker discuss some of the ways in which Cavendish appeared to use writing as an escape for securing peace and contentment in her own case. It also appears that Cavendish spent a significant amount of time in this retreat. See Skouen (2014), 568; Sarasohn (1984), 301.
27 "Similizing the Head of Man to the World," *Poems and Fancies*, 148-149. See also the poem that introduces *Sociable Letters* – "Upon Her Excellency the Authoress," unnumbered. Cavendish writes, "This Lady only to her self she Writes/ And all her Letters to her self Indites;/ For in her self so many Creatures be,/ Like many Commonwealths, yet all Agree."
28 See also Bowerbank (1984), 405.
29 "Allegory 19," *WO*, 100–101. See also *SL*, Letter LXXV, 156, and Letter CXIII, 226–229.
30 "A peasants oration to prove the happiness of a rural life," *ODS*, 248.
31 "An Oration for Men to Please themselves," *ODS*, 218–219.
32 See also Sherman (1994), 206–209; and Bowerbank (1984), 394–397.
33 See for example "Bred with the Muses," *WO*, 64: "THose that are bred up with the Muses are most commonly of sweet dispositions, Civil and Courteous in their

behaviour, Pleasant and Witty in their discourse, Noble and Heroick in their actions, Free and Generous in their distributions, Grateful for obligations, Compassionate to the miserable, and Charitable to the distressed. …But those that are born Poets are ingenuous by nature, and prone to invention, quick in apprehension, various in imagination or conception, their thoughts work generously, and entertain their time constantly, and are the best Companions to life, where Fancy presents several Scenes, and Wit speaks the Prologues."

34 "*Poets* have most *Pleasure* in this *Life*," *Poems and Fancies*, 152.

35 "A Peasants, or Clowns Oration Spoken in the Field of Peace, concerning Husbandry," *ODS*, 246.

36 I am assuming that Cavendish is not supposing that poetically minded farmers and peasants often become kings in fact; that would be an odd thing for her to suppose, given her knowledge of history and her views on the recalcitrance of the plenum.

37 "A mock tale of his grace the Duke of Newcastle," *NP*, 101.

38 "The Elysium," *Poems and Fancies*, 141-142.

39 See also Stark (1999), 271–272. Stark points to ways in which Cavendish's own writing is part of an attempt to imitate the variety and expression in nature, and to thereby amplify and enhance our own experience.

40 *WO*, 64.

41 "Youths Glory, and Deaths Banquet," *Playes*, 149. This is the voice of Sanspareille. The play continues with a poem on the next page: "On which the mind deliciously cloth seed / Whose lushious Iuice, tranquility as fat doth breed; / Reason the Nerves, and Grissels of the mind, / Grows strong, and cures the understanding blind; / Ther's none but Fools, this happy life would shun, / Such as would seek in ruggid wayes to run: / O Fools! O Fools! to love their torments so, / That they will rather choose to hell, than Heavens go" (150).

42 *GNP*, 74–75. See also *ODS*, "A Waking Oration to the former sleepy discourse," 300: "the Contemplating Life is the Best, and the Poetical World the Pleasant'st, for all Wise, Witty, Learn'd, Ingenious, Good, and Pious men dwell all in the Contemplative Life, and for the most do Lovers of all Sorts, especially Amorous Lovers, for they take more Pleasure to Think of their Mistresses, than to Speak with their Mistresses, for they can Entertain the Idea of their Mistresses a Long time with great Delight, whereas they grow Soon weary of their Real Persons. Thus the Contemplative Life is Best, for true Pleasure and Delight is not in the Senses, but in the Mind, for Delights and Pleasures are but Passengers through the Senses, and Inhabitors in the Mind; besides, whatsoever the Senses have Injoy'd, Lives in the Mind after their Injoyment…"

43 Cavendish celebrates the possibilities of poetic imagination, but she also allows that an over-extended imagination can bring with it dangers. As we would expect from the discussion in chapter three, she warns against conjuring imaginary fancies that purport to depict God and matters supernatural: "I conclude, and desire you, not to interpret amiss this my discourse, as if I had been too invective against Poetical Fancies; for that I am a great lover of them, my Poetical Works will witness; onely I think it not fit to bring Fancies into Religion: Wherefore what I have writ now to you, is rather to express my zeal for God and his true Worship, then to prejudice any body…" (*PL*, 219). See also *Poems and Fancies*, "To the Reader," unnumbered: "I am sorry it doth not touch at *Heaven:* but my *Incapacity,*/ *Feare, Awe,* and *Reverence* kept me from that *Work.* For it were too great/ a *Presumption* to venture to *Discourse* that in my *Fancy,* which is/ not *describeable.* For *God,* and his *Heavenly Mansions,* are to be *admired,*/ *wondred,* and *astonished* at, and not *disputed* on./ But at all other things let *Fancy* fiye,/ And, like a *Towring Eagle,*

mount the *Skie*,/ Or lik the *Sun* swiftly the *World* to round,/ Or like pure *Gold,* which in the *Earth* is found." See also *NP*, 148: "Man's ever troubled 'bout his Fame,/ For Glory and Ambition hot:/ When Beasts are constantly the same;/ In them those Follies enter not:/ Nor hope of Worlds to come, that's higher,/ With several Sects divisions make."

44 *NP*, 208–209.

45 Ibid.

46 *NP*, 211.

47 "The Lady Contemplation," *Playes*, 220–221.

48 Ibid., 222–223.

49 Ibid., 182.

50 See also Starr (2006), 295–308.

51 See also James (1999), 236; and Mascetti (2008), 18–28.

52 "The Lady Contemplation," 184. See also "Of a Solitary Life," *WO*, 28.

53 See also Hutton (2003), 89–90.

54 See also Walters (2014), 167–168.

55 "The Lady Contemplation," 229. In another moment in the play, Lady Contemplation says, "the brain can create Millions of several Worlds fill'd full of several Creatures…. Fancies are produced from thoughts, as thoughts are from the minde, and the minde which doth create the thoughts, and the thoughts the fancies, is as a Deity; for it entertains it self with it self, and only takes pleasure in its own works, although none other should partake, or know thereof; but I shall talk a World out of my head, wherefore farewel" (187). See also *NP*, 305-309.

56 It goes without saying that the life of contemplation as understood by Cavendish is very different from the life of contemplation understood by Plato and by early modern Platonists, for example Mary Astell. Cavendish and Astell are in agreement on a number of issues. For example, Astell agrees that differences in the capacities of men and women are due to education and training. However, Astell argues that minds are immaterial and that the highest form of activity in which they can engage is reflection upon other immaterials – like perfect geometrical figures and other eternal entities. Astell seeks to restructure society so that women have more leisure to develop their cognitive faculties and be able to appreciate perfect eternal forms. Equal opportunity is not a matter of men and women being able to take on the same professions for Astell; the earthly professions do not matter that much. Cavendish herself would change the world so that women have more opportunity to participate in poetical fancies. See Mary Astell, *A Serious Proposal to the Ladies, Parts I and II*; and Sowaal (2007).

57 Here we might recall the passage cited earlier in the chapter, at *GNP*, 74–75. There Cavendish speaks of imaginings as not weighted down by sensitive matter.

58 *PL*, 448.

59 See also the discussion in chapter one.

60 "Of the Actions of Dreams," *GNP*, 93–94. See also *PPO*, 110–111: "As for example, a man is as much grieved when he hears his friend is dead, or kill'd, as if he saw him die, or slaine; for the dead fried lives in the minde, not the minde in the dead friend, and if a man have a fine house, or great riches, or an excellent rare race of horses, or the like, whereupon the minde takes as great delight in thinking of his fine house, as if it dwelt in the house, and as great delight in thinking of his riches, or what he could do with the use of his riches; for the minde doth not so much dwell in the house, as the house in the minde, nor the minde doth not take so much delight in the use of the riches, as the use to be in the minde, and the remembrance of the curious horses is as much in the minde, as when those horses were in the eye; for when the sense is filled, the minde can but think, and the

minde may as well think when the objects are gone, as when they are present, and the minde may take as much delight, in thinking what the senses have enjoyed, as what they are to injoy, or desire to enjoy; for thoughts are the fruition of the minde, as objects the fruition of the senses…" See also "Wits Cabal," where the character Faction remarks that "I think good Husbands may be in our thoughts, but not actually in the World" (*Playes*, 253). See also "Of Vanity," *WO*, 38; and "The Publick Wooing," in *Playes*, 376.

61 Cavendish is very close to a view that we find later in Berkeley and Malebranche. For the former, sensible objects are defined as the immediate objects of perception, whatever those turn out to be; but they turn out to be ideas in human minds. (See Berkeley, *The Principles of Human Knowledge*, Part I, sections one through six, 89–91.) For the latter, we have no acquaintance whatsoever with material objects, and if they do exist it is a coincidence: to perceive a body is to entertain an idea, and an idea that is produced in our mind directly by God. (See Malebranche, *Dialogues on Metaphysics and on Religion,* Dialogue II, 19–30.) Cavendish even fleshes out an explication of the Malebranchean view herself. A piece of evidence that what we encounter directly is images, and not external bodies themselves, is that we could have all of the same perceptions that we have even if external bodies did not exist: "AS for the *Ioys of Heaven,* and the *Torments of Hell,* all the Parts of my Mind agreed, they could not conceive any more probably, than those they had formerly conceived: which former Conceptions they had occasioned the Sensitive Parts to declare; and having been formerly divulged in the Book of my *Orations,* their Opinion was, *That it would be a superfluous Work to cause them to be repeated in this Book.* But, the Ground or Foundation of those Conceptions, is, That God may decree, *That both the Sensitive and Rational Parts of those that are restored to Life, should move in variety of Perceptions, or Conceptions, without variety of Objects*: and, *that those Creatures* (viz. *Human Creatures) that are raised from Death to Life, should subsist without any Forrein Matter, but should be always the same in Body and Mind, without any Traffick, Egress, or Regress of Forrein Parts.* And the proof, that the Sensitive and Rational Parts of Human Creatures, may make Perceptions, or rather Conceptions, without Forrein Objects, is, *That many men in this world have had Conceptions, both amongst the Rational and Sensitive, which Man names* Visions, *or* Imaginations; *whereof some have been Pleasing and Delightful; others, Displeasing, and Dreadful*" (*GNP*, 263).

62 "A Dialogue Betwixt Wit and Beauty," *Poems and Fancies*, 82.

63 "An oration to sleepy students," *ODS*, 297–298. This text is from *Orations of Divers Sorts*, but it is clearly building on claims that Cavendish makes in her own person.

64 *OEP*, "Observations Upon the Opinions of Some Ancient Philosophers," 32. See also *ODS*, "A Funeral Oration of a Poet," 159: "the Gods Made Men, or such kind of Creatures, to Remember them, as to Speak of them, Think of them, and to Admire them in their Praises, Contemplations, and Adorations; also to have Visible Worship to their Invisible Deities, as to have Altars, Priests, and Sacrifices, to Offer Praise, Prayers, and Thanksgiving: So that *the Gods are not Satisfied to Live only To or In Themselves, but in their Creatures*; Wherefore, those men Resemble the Gods most, that desire Fame, which Fame is to be Remembred and Prais'd by All Men in All Ages throughout the World…" (emphasis added).

65 "An Epistle to the Unbelieving Readers in Natural Philosophy," *WO*, unnumbered. This passage was quoted earlier in chapter six.

66 See also Boyle (2006), 262–263; and Wright (2014), 51–52.

67 *WO*, 2. See also "A Generals Oration to his mutinous soldiers," *ODS*, 38: "I hate Treachery, as I hate Cowardliness, and I hate Cowardliness, as I hate Disgrace, or

Infamy, and I hate Infamy worse than Oblivion; for Oblivion is the Hell of Meritorious and Gallant men; and as I prefer after-Memory, which is Fame, before present Life, which Fame is the Heaven wherein Worthy and Honourable men and actions are Glorified, and live to all Eternity, so would I have my Souldiers there to Live, and be Glorified…" See also WO, 64.

68 *GNP*, 75–77. See also "A Generals Funeral oration," *ODS*, 151–152. See also *PPO*, "To the Two Universities," unnumbered; *WO*, 3–4; and "A Description of the Battle in Fight," *Poems and Fancies*, 177.

69 This is quoted from the previous passage, with italics added.

70 See the discussion of unconscious embodied intelligence in chapter two.

71 There will be a further discussion of the universal desire for fame in chapter eight as something that any wise monarch will need to hold constant in organizing the behavior of subjects.

72 We might return now to the issue of the reality of imaginary worlds. If we can become so invested in the versions of ourselves that exist in the minds of others, it would make sense that we could take seriously other inhabitants of the imaginary domain as well.

73 See Nozick (1975), 613–614.

74 See *The Principles of Human Knowledge*, "Introduction," sections eleven through thirteen, 78–81.

75 A similar question about normativity of course arises in the philosophy of Spinoza.

76 This notion was barely part of the intellectual landscape in the seventeenth century – see for example Lennon (2014), 168–185 – but Cavendish has arguments at the ready. The alternative view (which was pervasive among seventeenth-century philosophers) is that nothing can happen without a sufficient prior cause. Cavendish did not hold that everything has a sufficient explanation, but she held that for any event that occurs, there is a prior set of causes that made it occur just as it did, otherwise it would have occurred differently or would not have occurred at all.

77 See also the argumentation in Van Inwagen (2008), chapter twelve.

78 *PL*, 345–346.

79 *PF*, 5.

80 See also the similar view in Hobbes, *Leviathan*, I.vi.7, 28–29, and also Spinoza, *Ethics*, Part IV, preface, 320–322.

81 *PL*, 439–440.

82 For example, the English Civil War that displaced her and so many others.

8

A NOTE TO THE MONARCH

There are a number of passages in the Cavendish corpus that treat issues in political philosophy – addressing such questions as whether or not monarchy or aristocracy or democracy is the most stable form of government; whether or not there are tendencies in human nature that put constraints on which formations of society are most sustainable; and whether or not there are specific things that a governor might do to maximize the chances that social order is secured. The bulk of the passages appear in Cavendish's fictional writings, and so there are interpretive issues in determining with confidence which of the passages are in her own voice, and some of the voices indeed are contradictory. The passages belie an interest in a subject matter of pressing importance, however, and in the end Cavendish does present us with a fairly definitive picture of her own. One of the reasons that she refrains from being too definitive is that she supposes that there is a lot of trial and error involved in holding together a society. She will argue that monarchy is the best form of government for securing stability and order, but on many other matters of political philosophy she will be less committal and simply offer guidelines that she supposes a monarch would be wise to take into account. Another reason why she is not overly definitive is that she regards change and conflict to be a fixture of the material universe – especially in those regions that are dominated by human beings. Any stretch of social stability will be messy and unstable, and will only remain in place for so long.

Motivation, cruelty, and self-love

A good place to begin the discussion of Cavendish on the most effective form of social organization for human beings is a passage from *Worlds Olio*:

> There are few, but desires to be absolute in the world, as to be the singular work of nature, and to have the power over all her other works…[1]

From earlier, Cavendish holds that regions of the plenum strive to maintain a quantity of motion and that in the course of so doing they will sometimes

overcome or destroy beings that surround them. Here Cavendish contends that a common desire among human beings in particular is to have authority over all of nature. Non-human animals tend not to have this desire, she supposes: they work in concert with each other in ways that promote the flourishing of the larger community of which they are a part. We are not so concerned with our fellow creatures, and all things considered we take their suffering and hardship to be a bonus:

> I do not wonder to see so great a Multitude gathered together, to view the Death of a single Person; although Death is common to every one, and that there is as many several ways to dye, as Eyes to look on: yet Beasts do not gather in Troops to see the Execution of their Kind… But, O odd Man! how art thou made! To have so much Ambition as to desire the Power of Gods, and yet to be more foolish than Beasts, and as illnatur'd as Devils of Hell! For, Beasts follow the Laws of Nature, but Men follow their own Laws, which make them more miserable than Nature intended them to be. Beasts do not destroy themselves; nor make they Laws to entangle themselves in the Nets of long strong Suits; but follow that which pleaseth them most. Unless Men vex them, they weary not themselves in unprofitable Labours, nor vex their Brain with vain Phantasms; they have no superstitious Fear, nor vain Curiosity, to seek after that which (being found) they are never the better: nor strange Opinions, to carry them from the Truth; nor Rhetorick, to perswade them out of the right way. And when Beasts prey upon one anothe, it is out of meer Hunger; not to make Spoil, Man, who is so disorderly, as that he strives to destroy Nature her self, and (if he could) pull *Jupiter* out of Heaven: But when we come near to be destroyed by Death, then we have a seeming-Repentance, and flatter the Gods to have pity on us.[2]

Part of the reason that we take pleasure in the misfortune of others – Cavendish will argue – is that we are driven exclusively by self-interest and have no independent concern for the well-being of those around us. We see someone else suffering, she might say, and we enjoy the thought that we have orchestrated a way to avoid such a fate ourselves; or perhaps we enjoy the feeling of having been chosen. Even our concern for others is a concern for ourselves, she supposes, and for how we would benefit from assisting them. She writes,

> [T]here can be no Friendship, but proceeds from Self-love and Interest; for their delight is in their Friend; and to dye for a Friend, is because they cannot live without him.[3]
>
> SElf love is the ground from whence springs all Indeavours and Industry, Noble Qualities, Honorable Actions, Friendships, Charity,

and Piety, and is the cause of all Passions, Affections Vices and Virtues; for we do nothing, or think not of any thing, but hath a reference to our selves in one kind or other, either in things Divine, Humane, or Natural; for if we part with Life, which is the chiefest good to Mankind, it is because we think in Death there is lesse Pain than in Life, without that we part with Life for; and if we endure Torment which is worse than Death, for any Thing, or Opinion, it is because our Delight of what we suffer for, is beyond all Pains; which Delight proceeds from Self-Love, and Self-Love is the strongest Motion of the Mind; for it strives to attract all Delight, and gathers together, like the Sun Beams, in one Point, as with a Glass, wherewith it sets all on fire; So Self-Love infires the Mind, which makes it Subtil and Active, and sometimes Raging, Violent and Mad; and as it is the First that seiseth on us, so it is the Last that parts from us; and though Reason should be the Judge of the Mind, yet Self-Love is the Tyrant which makes the State of the Mind unhappy; for it is so partially Covetous, that it desires more than all, and is contented with nothing, which makes it many times grow Furious, even to the ruin of its own Monarchy.[4]

Cavendish does not present any separate argument for the view that human beings are concerned exclusively with their own interest; she would seem to be reading off from her observations of human behavior.

Cavendish does not deny that we act in ways that benefit others; she is just making a claim about what is motivating us in such cases. A different philosopher[5] might argue that we sometimes weight the interests of others above the interests of ourselves: for example, a friend might have a job opportunity that will finally make them happy, but they will have to leave us for a long period of time, perhaps forever; we might want them to take the job even though we will feel a tremendous loss as a result. We *want* the well-being of the other, this philosopher would say, and not because it brings us some further benefit. Cavendish would argue that this sort of case is impossible, or at least that it would have to be filled in: perhaps we gain a reputation of generosity for acting so selflessly toward our friend, which reputation will garner us sympathy and attention that we can cash in later. We find the same egoistic understanding of human behavior in some of her plays:

since Self-love is the Fountain of and in Nature from whence issue out several Springs to every several Creature, wherein Mankind being her chiefest and Supreme work, is filled with the fullest Springs from that Fountain, which is the cause that Mankind is more industrious, cruel, and unsatiable, to and for his self ends, than any other Creature, he spares nothing that he hath power to destroy, if he fears any hurt, or hopes for any gain, or finds any pleasure, or can make any sport, or to imploy his idle time; he melts metalls, distills and dissolves plants,

dissects animals, substracts and extracts Elements, he digs up the bowels of the Earth, cuts through the Ocean of the Sea, gathers the winds into Sails, fresh waters into Mills, and imprisons the thinner Ayre; he Hunts, he Fowls, he Fishes for sport, with Gunns, Nets, and Hooks; he cruelly causeth one Creature to destroy another, the whilst he looks on with delight; he kills not only for to live, but lives for to kill, and takes pleasure in torturing the life of other Creatures, in prolonging their pains, and lengthning their Deaths; and when Man makes friendship of Love, it is for his own sake, either in humouring his passion, or feeding his humour, or to strengthen his party, or for Trust, or Counsel, or Company, or the like causes; if he dies for his friend, it is either for fame, or that he cannot live himself happy without his friend, his passion, and grief, making him restless; if Man loves his Children, Wife, or Parents, tis for his own sake; he loves his Parents, for the honour he receives by them, or for the life he received of them; if he loves his Wife, or the Wife the Husband, it is for their own sakes, as their own pleasure, as either for their Beauties, Wits, Humours, or other Graces, or for their Company, or Friendships, or because they think they love them; if they love their Children, it is for their own sakes, as to keep alive their memory, and to have their duty, and obedience, to bow and do homage to them; …if Amorous Lovers love, it is for their own sakes, as to please the Appetite, and to satisfy their desires…[6]

Cavendish is arguing that we do not have a freestanding desire to see others flourish. When we do want others to flourish, it is only because there is some further benefit that we see as accruing to ourselves. If we did have the freestanding desire to see others flourish, we would be motivated by an urge to satisfy a desire in that case as well; we would have a desire to bring about or witness the promotion of someone else's aims and goals. But Cavendish is arguing that we do not have any such desire unless it is secondary to a desire to promote an exclusively selfish interest.[7]

Cavendish fleshes out her view of the motivations and tendencies in human behavior by contrasting us again with non-human creatures. Ants and bees and birds are not as cut off from the beings that surround them, she observes; they have a regard for community and other that is practically automatic. Indeed, bees work together so seamlessly that they seem to constitute a larger individual, where particular bees do not attempt to be "absolute in the world, as to be the singular work of nature, and to have the power over all her other works." Non-human creatures are *wiser* than human beings in some respects even, for they recognize that there is little daylight between the flourishing of the individual and the flourishing of the whole:

> for *Bees* do not, as Men in Publick Councels, speak by turns; but they speak all at once, after the Leading-Bee hath spoke; I suppose,

either all consenting, or not consenting to the chief *Bee's* Proposition. Neither can I perceive that they speak studied Speeches, as Men do, taking more care and pains therein, than for the Common Good. Neither do they, as Men do, which is, to speak as Passion perswades them, not as Reason advises, or Truth discovers, or Honesty commands them; but as Self-love or Self-will draws them, driving their own particular Interest, following their own Appetites, preferring their own Luxuriousness and Pleasure, before the publick Felicity or Safety; venturing the publick Ruin, for a Title of Honour, or Bribe, or Office, or Envy, or Hate, or Revenge, or Love, or the like; nay, for a vain and affected Speech. But *Bees* are wiser; for they know, that if the Commonwealth be ruinated, no particular Person can be free.[8]

As we saw in the earlier discussions of embodied intelligence, and the sophistication of non-human bodies, the Cavendish corpus contains a multitude of passages along these lines. She speaks of the community orientation of insects, of vegetables, of ecosystems, of non-human animals; she describes in detail the ways in which human beings are much more destructive.

We might think of additional cases that Cavendish does not cite herself. For example, emperor penguins form into a large cluster to maximize their heat, dutifully taking their turn on the outer edge, and in some cases freezing to death. Vampire bats share food with the other bats in their community, when humans might tend to hoard it. Elephants share nursing responsibilities as a herd when a mother elephant is otherwise occupied. Cavendish supposes that human beings by contrast tend to be selfish and horrible and cruel, and that we take pleasure in domination:

> Why (said the *Fly*) do you rail and exclaim against us, when we do nothing against Nature, but do good service to the Countrey? for, we create living Creatures out of that you destroy; whereby we keep Nature from ruin: and those only that destroy Life, are Nature's Enemies; but those that maintain or create Life, are Nature's Friends. Thus we are Friends, and you are Enemies to Nature: for you are cruel, striving to destroy Nature, not only by taking the Life of barren Creatures, that are past producing; but of young Creatures, that would encrease, had they been suffered to live, in not killing them before their natural time to dye.[9]

When we *poore Birds* are by the dozens kill'd,

And luxuriously us eate, till they be fill'd:

And of our *Flesh* they make such cruell wast,

That but some of our *Limbes* will please their tast.
In *Wood-cockes thighes* they onely take delight,
And *Partridge wings,* which swift were in their flight.
The smaller *Lark* they eate all at one bite,
But every part is good of *Quaile,* and *Suite.*
The *Murtherous Hawk* they keep, us for to catch,
And learn their *Dogs,* to *crouch,* and *creep,* and *watch:*
Untill they have *sprung* us to *Nets,* and *Toiles,*
And thus *poore Creatures* we are made *Mans* spoiles.
…No *Creature* doth usurp so much as *Man,*
Who thinkes himselfe like *God,* because he can
Rule other *Creatures,* makes them to obey:
We *Soules* have, *Nature* never made, say they.
What ever comes from *Natures Stock,* and *Treasure,*
Created is onely to serve their pleasure.[10]

As if that *God* made *Creatures* for *Mans meat,*
To give them *Life,* and *Sense,* for *Man* to eat;
Or else for *Sport,* or *Recreations* sake,
Destroy those *Lifes* that *God* saw good to make:
Making their *Stomacks, Graves,* which full they fill
With *Murther'd Bodios,* that in sport they kill.
Yet *Man* doth think himselfe so gentle, mild,
When *he* of *Creatures* is most cruell wild.
And is so *Proud,* thinks onely he shall live,
That *God* a *God*-like *Nature* did him give.
And that all *Creatures* for his sake alone,
Was made for him, to *Tyramize* upon.[11]

Cavendish supposes that an undeniable deliverance of our experience of the individuals within the plenum is that human beings take pleasure in the

domination and destruction of others. Our survival does not require that we destroy such beings, at least not in most cases, but we are motivated to seek pleasure, and we take pleasure in witnessing suffering and pain.

Cavendish supposes indeed that we are cruel across the board. We enjoy the feeling of power that comes with the domination and destruction of non-human animals, and we experience a thrill to witness the suffering of our own kind. We gather as a multitude to "view the Death of a single Person," an analogue of what we call "rubbernecking" or "gapers" traffic in the current day. She writes,

> Yet I perceive it is the nature of most of Mankind, especially Mean births, Low fortunes, and Brute breedings, to be Ungratefull, Malicious, Revengefull, and Inhumane.[12]

Cavendish takes all of this to be obvious from her experience of human behavior, and she does not offer an additional argument or proof to buttress her case. She does however attempt to offer at least some explanation of why we are so cruel, when non-human bodies are not. The main reason, she thinks, is that our representations are radically incomplete. These fail to pick up on all of the sophistication that is present in the non-human creatures that surround us, and then on the basis of our misinformation we conclude that we possess a stature that they do not:

> But the Ignorance of Men concerning other Creatures is the cause of despising other Creatures, imagining themselves as petty Gods in Nature, when as *Nature* is not capable to make one God, much less so many as Mankind…[13]

We suppose that we are superior to non-human creatures; we feel entitled to dominate them, and we bask in our relative standing. Cavendish does not say why we also take pleasure in dominating fellow human beings: perhaps we feel a sense of security in amassing strength to preserve our quantity of motion; or perhaps we seek to enhance our standing further still, where the domination of human beings is more satisfying and (to us) more impressive than the domination of flies, birds, and bees. Cavendish does not say exactly why we enjoy such domination, but she does think that it indicates our own short-sightedness, and again the incompleteness of our representations. Other creatures work with an eye to the health of the larger community of which they are part, in a way that tends to benefit its members. We would appear to be more naïve and less evolved. We aim to become singular and spectacular, and to approach the status of gods, but each of us is always immersed in a much larger plenum, whose internal boundaries are porous and fluid. We depend for our properties on the beings that surround us, but we regard ourselves as independent and detached: our own interests would be better met, Cavendish is suggesting, if we did not have such incomplete and parochial

representations of ourselves and others, and if we did not make as pronounced a distinction between ourselves and the bodies with which we are contiguous. We would still encounter occasional threats to our existence in the form of non-human creatures attempting to preserve their own quantity of motion, but we would have far more allies.

We can now understand even better why Cavendish would suggest that an intelligent response to the troubles of everyday life is to retreat to stoical fancies. The plenum will get in our way – humans and non-humans alike. A dysfunctional response would be to rebel against the facets of the plenum that unfailingly squelch our goals and desires. A better response would be to keep to ourselves and enjoy pleasantries that the plenum is not so likely to prevent. We might be disappointed at giving up on the possibility that our surroundings will be amenable, but Cavendish is supposing that that is rarely a possibility at all. We will find some escape from human cruelty in the context of a civil society, where a powerful authority will be in place to keep our tendencies in line, but we will often be confronted with a choice between a bout of unpleasant reality and a bout of poetical fancy, and the latter will be far more fulfilling.

Monarchy and social order

Cavendish supposes that daily life can be very difficult when we are surrounded by other human beings in a community, but she recognizes that it is a fantasy to think that we could go it on our own. Some form of government is necessary for human beings to secure the bare minimum of projects and pursuits, or indeed to have any kind of life at all. She writes,

> without Government nothing can last; and there can be no Government without superiority or superiours; for there must be both authority and obedience, to make a Harmonical Common-wealth.[14]

Cavendish will argue that, for human beings, monarchy is the best form of government for maintaining security and order.[15] There are some interpretive issues that arise in reconstructing her defense, however. One is that almost all of the discussions of government that appear in her corpus are in texts like *Orations of Divers Sorts, Sociable Letters, The description of a new world, called the blazing-world*, and in the stories of *Nature's Picture*. The first of these, *Orations of Divers Sorts*, is an especially difficult text to interpret: Cavendish presents multiple perspectives on a range of philosophical issues, and it can be difficult to determine which if any of these perspectives is her own. Some commentators have noted, however, that the discussions of government in *Orations* are unique in that the vast majority speak in favor of monarchy, and for almost all of the same reasons.[16] An additional basis for trusting the passages that speak in favor of monarchy is that there is a character in

Cavendish's fiction – the she-anchoret – who embraces Cavendish's philosophical system almost point by point, and *she* defends monarchy as the best form of government. In "The she-anchoret," a long segment of *Nature's Picture*, the main character defends the full spectrum of philosophical positions that Cavendish presents in her first-person philosophical writings.[17] The "she-anchoret" would appear to be Cavendish herself: she posits that intelligent matter is ubiquitous and eternal;[18] that human beings have no idea of God;[19] that time is nothing over and above the variation and alteration in nature;[20] that exhaustive practice and observation are required to be a good physician;[21] and that the only sort of freedom that is had by human beings (or any other creatures) is compatibilist in kind.[22] Also noteworthy is that Cavendish ends the prefatory remarks of *Nature's Picture* with this:

> If I cannot be so happy to deserve your Commendations, let me deserve your Censure; which cannot be (in relation to you) till you have read the whole Work; and chiefly, the Stories of the *Anchoret,* and of the *Experienced Traveller;* and then (I hope) the Prejudices you may have against an unlearned Woman, will be taken off.[23]

Cavendish is writing in her own voice in the preface, signing her name at the end. The views represented by "the she-anchoret" are almost entirely identical to views that Cavendish defends elsewhere, and she begins *Nature's Picture* with the comment that the contentions of the she-anchoret will work to counter "Prejudices you have against an unlearned Woman" – presumably because Cavendish herself supposes that those contentions are compelling if not true.

Cavendish (in the form of the she-anchoret) is unambiguous in her endorsement of monarchy as the best form of government. One of her reasons is that a government controlled by a single individual is the least likely to be divided or unstable:

> Then they asked [the she-achoret], What Government for a Commonwealth was best?
>
> She answered, Monarchical. for, as one Sun is sufficient to give Light and Heat to all the several Creatures in the World; so one Governour is sufficient to give Laws and Rules to the several Members of a Commonwealth. Besides, said she, no good Government can be without Union; and Union is in Singularity, not in Plurality; for Union is drawn to a Point, when Numbers make Division, Extraction, Substraction; which often-times brings Distraction; and Distraction, Confusions.[24]
>
> Then they asked her, If a foolish King might not bring a Commonwealth to ruin sooner, than a Council of Many?

She said, No: for, said she, the plurality breeds Faction; which Faction causeth more evil than one foolish Head can make or bring about.

Then they asked, If a Tyrant-King were not worse than a Factious Assembly?

She said, No: for, said she, a Tyrant-King may make good Laws, and keep Peace, and maintain Supreme Power and Authority; but a Factious Assembly (said she) will break all Laws, do no Justice, keep no Peace, obstruct Authority, and overthrow Supreme Power; and, said she, that Kingdom is happiest that lives under a Tyrant-Prince; for when the People are afraid of their Prince, there is Peace; but where the Prince is afraid of the People, there is Warr; and there is no Misery like a Civil-Warr: Nor is there a greater sign that a King is afraid of his People, than when he advances those that are, or seem to be his Enemies. Thus Subjects in general live happiest under a Tyrant, but not particular Courtiers, or busie prating Fools, or Factious Knaves: and a facil King causeth more Trouble, Distraction, and Ruin, by his soft easie nature, than a Cruel Tyrant with Executions, severe Laws, or heavy Taxes: for the greatest Tyrant that ever was, will not destroy all his Subjects, or take away all Substance, for his own sake; for if he did, he would destroy his Power, and ruin his Monarchy.[25]

Here Cavendish supposes that the individual human beings who make up an aristocracy will sometimes or often disagree amongst each other, and that some of these individuals will strive to take power for themselves.[26] The views of she-anchoret are very likely the views of Cavendish, and the she-anchoret is arguing that a monarchy is more stable than any other form of government, and less likely to be divided. An individual monarch is a composite, like all individuals in nature, but Cavendish is assuming that the bodies that enter into the shape of a human being have more unity and cohesion than a composite of human beings that form an aristocracy.

Passages from *Orations of a Divers Sort* then provide further support that Cavendish takes monarchy to be the best form of government. One of the orations repeats a version of the reasoning immediately above:

> the State or Government became Aristocraty, in which Government for some time they Liv'd Agreeable, and Govern'd Justly and Orderly, but by Reason Aristocraty is a Government of Some of the Nobles, and not of One, they could not Long agree, Every one Striving to be Chief and most Powerfull, insomuch that through Envy and Ambition they would Cross and Oppose each other; …the truth is, the Kingdome is like as the Chaos and Confused Substance, and there is no way to bring it to an Orderly Form, but to have a Native King, to bring Light out of Darkness, that we may See our own

> Errors, and Reform our Faults and hereafter Live Happily under the Government of a Good and Wise King, which I Prav the Gods to Send you.[27]

It bears noting, though, that there are exceptions to the rule that the passages of *Orations* speak in favor of monarchy. Indeed, one of the passages reflects the view that the best form of government is aristocracy:

> a Pure Democraty is all Body and no Head, and an Absolute Monarchy is all Head and no Body, whereas Aristocraty is both Head and Body, it is a Select and Proportionle Number for a Good Government, which Number being United, Represents and Acts as One Man, for like as Many Mens Voices Agreeing and Consenting make it as One Mans Decree, so a Proportionable Number makes it as One Mans Ruling or Governing: Wherefore, this is the Best Kind of Government for Us, for so all the Chief Commanders in our Army, being United together, may be this whole Person in this Aristocratical Government, in which the whole Power of the Kingdome will be in Us, and so we may Govern as we shall Think good.[28]

Perhaps Cavendish is just reflecting her fallibilism here – allowing that there might be circumstances in which monarchy is not the best form of government to secure stability. She does allow that in the case of *non*-human beings there are organizations that can secure order at least as well if not better:

> the *Bees* are a Monarchical Government, as any may observe; and the *Ants* are a Republick. But by this we may perceive, it is not such and such *kinds of Government,* but such and such *ways of Governing,* that make a Commonwealth flourish with Plenty, Conveniency, Peace, and Tranquillity: for, the Monarchical Government of the *Bees,* is as wise and happy as the Republick of the *Ants.*[29]

So perhaps Cavendish just thinks that monarchy is the best form of government for human beings, given their current tendencies and inclinations. As we have seen, she insists that we are unlike other creatures in that we are motivated primarily by self-love, and perhaps if we could come to change our ways, other forms of government would be suitable for us as well. But she is not going to hold her breath. She no doubt subscribes to the more generic view that the best form of government is the one that best preserves order and stability, whatever that turns out to be. She assumes that, as things stand, monarchy is by far the best structure for keeping human beings in line.[30]

Cavendish leaves numerous reminders that no matter how difficult and unpleasant things might become under a monarch, obedience is always preferable to the alternative. We might be able to imagine scenarios in which we

instigate a rebellion and all goes according to plan, but those are fancies, and in reality things are not likely to turn out as well. Such fancies might be pleasurable and entertaining, but they do not incorporate all the facts on the ground: they do not depict the background conditions that would express themselves and lead to instability. Cavendish thus endorses monarchy even though she appreciates that any given monarch might become cruel and corrupt. There is a high likelihood of instability with any other form of government, she supposes, and instability is likely to lead to outcomes that would have us long for a return to the past:

> if there be no Government, there can be no Order, if there be no Order, there can be no Justice, and if no Justice, there can be no Safety, if no Safety, no Peace, if no Peace, no Trade, and if no Trade, there will be no Riches. Wherefore your best way is, to Submit and Obey, to be Content, to be Ruled, and not seek to Govern, to injoy your Rights, and to revenge your Wrongs by Law and Justice, and not to make Warr and Confusion to destroy your selves.[31]

Cavendish worries that the prospect of civil war follows any rebellion against a monarch, in part because of all of the human inclinations that would inevitably manifest themselves – inclinations that the monarch had been containing and diverting all along.

And civil war is to be avoided at all costs:

> THe greatest storm that shipwracks honest education, good laws, and decent customes, is civil-wars, which splits the vessel of a Common-wealth, and buries it in the waves of ruine…[32]
>
> Civil Warrs begun, it is a long time, before there can be Peace again.[33]
>
> *Some,* their *Leggs* hang dangling by the *Nervouse* strings,
>
> And *Shoulders* cut, hung loose, like flying wings.
>
> Here heads are cleft in two parts, *braines* lye masht,
>
> And all their *faces* into slices hasht.
>
> Braines only in the *Pia Mater* thin,
>
> Which quivering lyes within that little skin:
>
> Their *Sculls* all broke, and into peeces burst,
>
> By *Horses hoofes,* and *Chariot wheeles,* to dust.[34]

For Cavendish, human societies are a cauldron of explosive ingredients that need to be kept in balance if we are to have even the most minimal form of

existence.[35] She goes to great lengths to describe the horrors of war, and at the same time she makes sure to register the benefits to us of stability and peace. For example, in a dialogue between peace and war, she writes,

> War.
>
> Thou *Flattering Peace,* and most unjust, which drawes
>
> The *Vulgar* by thy *Rhet'rick* to *hard Lawes:*
>
> Which makes them *silly Ones,* content to be,
>
> To take up *Voluntary Slavery.*
>
> And mak'st great *Inequalities* beside,
>
> Some like to *Asses* beare, others on *Horsback* ride.
>
> Peace.
>
> O *War,* thou cruell *Enemy* to *Life,*
>
> *Vnquieted Neighbour,* breeding alwaies *Strife.*
>
> …*Civill Society* is turn'd to *Manners base,*
>
> No *Lawes,* or *Customes* can by thee get place.
>
> Each *Mind* within it selfe cannot agree,
>
> But all do strive for *Superiority:*
>
> In the whole *World* dost such *disturbance* make,
>
> To save themselves *none* knowes what waies to take.
>
> …I am the *Bed* of *Rest,* and *Couch* of *Ease,*
>
> My *Conversation* doth all *Creatures* please.
>
> *I* the *Parent* of *Learning* am, and *Arts,*
>
> *Nurse* to *Religion,* and *Comfort* to all *Hearts.*
>
> *I* am the *Guardian,* which keepes *Vertue* safe,
>
> Under my *Roose security shee* hath.
>
> *I* am adorn'd with *Pastimes,* and with *Sports,*
>
> Each severall *Creature* still to me resorts.[36]

Whatever it is that we seek from war, Cavendish thinks, the benefits of stability trump. Perhaps we seek to rebel against a monarch because he is corrupt, or perhaps we seek to acquire fame. So long as there are other routes

to the pleasure that we are seeking – and there is always imaginary fancy – rebellion is not a viable option.[37] Civil war affords the opportunity for few long-term projects or pursuits, and little leisure for episodes of imagination. Most of a human life is far more enjoyable under a barbarous king than in a circumstance of civil war, so long as we hold constant the facts on the ground – what they make possible, and what they rule out.

Another reason that monarchy is the best form of government for maintaining order and security, Cavendish argues, is that a monarch is easier to regard as exceptional than are the individuals that compose a group.[38] A monarch can be represented as unique and without match – as approaching a god, even – whereas the members of an aristocratic government, however impressive, could not come across as singular and without equal:

> Kings are God's Vicegerents, or Deputies on Earth: for, as the Gods are chief in Heaven, and rule the Works of Nature as they will; so Kings are chief on Earth, and rule the rest of Mankind as they please.
>
> But, said the other; If they rule not well, they are to give an account.
>
> Yes, answered the other; but not unto those Men they rule, but to the Gods that placed them in their Thrones.[39]

If a particular human being can be regarded as the singular choice of a higher power, a subject would think twice before violating a law or fomenting rebellion. Cavendish presents us for example with the Empress of the Blazing World, who has just saved her people from attack:

> Which sight, when her countrymen perceived at a distance, their hearts began to tremble; but coming something nearer, she left her torches, and appeared only in her garments of light, like an angel, or some deity, and all kneeled down before her, and worshipped her with all submission and reverence: but the Empress would not come nearer than at such a distance where her voice might be generally heard, by reason she would not have that of her accoutrements anything else should be perceived, but the splendour thereof. … But, good Lord! what several opinions and judgments did this produce in the minds of her country-men; some said she was an angel; others, she was a sorceress; some believed her a goddess; others said the devil deluded them in the shape of a fine lady.[40]

The Empress comes across as super-human, as having the all-encompassing reach and power of a god. We find similar language in "Deaths Banquet and Youths Glory," when the main character Sanspareille says enthusiastically:

> Great Queen! I, nor no other, should offer, or dare to speak before, or to such Supreme persons as your Majesty, without a sore premeditation; for the words and behaviours of speakers should be fitted to the degrees and qualities, Powers, Offices, and Authorities of the Auditory; But your Majesties commands makes that an obedient duty, that would otherwayes be a presumption; wherefore, on the ground of duty I speak at this time before your Majesty; but the Royalty of your person, the brightnesse of your beauty, the fame of your vertues, and the glorious splendour of your Majestical Grandeur hath so amazed me, that my understanding is as it were blind, which will cause my tongue to stagger, and my words to run stumbling out of my mouth; but I hope your Justice will pardon them; …But Kings and Royal Princes should do as Gods, which is to keep their Subjects in aw, with the Superstitious fear of Ceremonies; wherefore Princes should do no actions, no, not the meanest, without Ceremony to astonish the vulgar; for Ceremonies begets fear, fear begets Superstition, Superstition Reverence, Reverence Obedience, Obedience brings Peace, Peace brings Tranquility; But where Ceremonie is not used, the Gods are neglected, and Princes dispised; for Ceremonie is the Throne which Gods and Princes sits on, which being pulled away, they fall from their Glory; for Ceremonie is the Royal Crown which makes them Majestical, it is the Scepter by which they rule, it is the Altar at which all the Subjects kneel, do bow, and they offer up there their natural free liberty.[41]

A monarch has the best chance of securing order and stability, in part because a monarch has the best chance of being regarded as exceptional and meriting obedience.[42] Cavendish argues that wise monarchs take multiple steps to maximize the perception that they are extraordinary – there will be ceremonies, expressions of power, and expressions of alignment with the divine.

Cavendish's arguments in favor of monarchy encounter a number of potential problems, especially given some of the tenets of her metaphysics and epistemology. For example, she holds that an individual is always a collection of smaller individuals that strive to work in unison to preserve a quantity of motion. If she is right, there is a sense in which a single ruler or monarch is just as much a composite as a group of aristocratic rulers, and is perhaps just as likely to fracture and divide. Cavendish appears to just take for granted that an individual human being will always be more unified than any collection of human beings could ever be. She does not supply an argument, and it is not clear exactly what the argument would be. Perhaps she is thinking that the components of an individual human being have been working in unison since the individual's birth, and would always have a longer history of cohesion than any human collective. A problem – even if she is right to think this – is that there are benefits that a group of individuals might bring to the table that

outweigh the drawbacks of their lesser cohesiveness. For example, Cavendish supposes that individual human beings have radically incomplete representations of their surroundings, and perhaps the benefits of the more complete perspective of a group of human beings could outweigh the drawbacks of their low level of integration: the members of an aristocratic government might be able to converge on solutions to problems that an individual monarch would often miss. As we have seen, Cavendish does allow that non-monarchical structures can be stable in at least some instances. There is also this passage on the well-governedness of thoughts and emotions:

> THE several Brains of men are like to several Governments, or Kingdomes; the Monarchical Brain, is, where Reason rules as sole King, and is inthron'd in the Chair of Wisedom, which keeps the Vulgar Thoughts in Peace and Obedience, not daring to rise up in Rebellious Passions; but the Aristocratical Brain, is, where some Few, but strong Opinions govern all the Thoughts; these Governors most commonly are Tyrannical, executing their Authority by Obstinacy; but in the Republike Brain there is no certain Government, nor setled Governour; for the Power lies among the Vulgar Thoughts.[43]

Here Cavendish is not dealing explicitly with the question of the forms of government that best bring about security and order; she is making the point that the thoughts and emotions of a human mind can be well-ordered by a single overriding faculty of reason *or* by a collection of wise and compelling beliefs that keep our less informed states at bay. But perhaps the same applies in the case of a collection of wise individual human beings and their ability to secure order among subjects.

Cavendish would presumably respond that aristocracy is never a good system of government to organize the behavior of human beings, even if an aristocratic form of government does in some instances have its merits. The collection of bodies that compose a brain is very different from the collection of individual human beings that compose an aristocracy. Like most other components of a human being, the bodies that compose a brain have a long history of working in concert: these would be more along the lines of the collections of ants that function in a republic. If so, what Cavendish is contending is that both of these sorts of collection exhibit more unity than a collection of human beings. An aristocratic body may bring increased perspective and other benefits, but these would have diminishing returns if the collection itself was often on the verge of implosion. Cavendish is clearly putting a lot of weight on her cynical view of human nature if her response is along these lines. She supposes that the individuals that make up an aristocratic government would quickly manifest their inclination to overpower and destroy each other, where the components of a monarch would err on the side of striving to maintain their collective quantity of motion.

We might also raise a related objection against Cavendish. In chapter six, we considered her view that an agent's authority and power are in part a function of the internal motions of the agent, but also in part a function of the motions of the bodies in the plenum and their receptivity to the agent's decisions or directives. If Cavendish is correct, monarchs will only have as much authority and power as are invested in them by the surrounding plenum. In a striking passage from *Philosophical Letters*, she writes,

> But man thinks he governs, when as it is Nature that doth it, for as nature doth unite or divide parts regularly or irregularly, and moves the several minds of men and the several parts of mens bodies, so war is made or peace kept: Thus it is not the artificial form that governs men in a Politick Government, but a natural power, for though natural motion can make artificial things, yet artificial things cannot make natural power; and we might as well say, nature is governed by the art of nature, as to say man is ruled by the art and invention of men. The truth is, Man rules an artificial Government, and not the Government Man, just like as a Watch-maker rules his Watch, and not the Watch the Watch-maker.[44]

Here Cavendish is pointing out that there are much larger forces at work when a monarch (or any other ruling body) is successful at securing order and organization in a society. As Cavendish puts it, whether or not "war is made or peace kept" is a function of how nature "moves the several minds of men and the several parts of mens bodies." Individual monarchs of course play some role, but whether or not they are effective is a function of the receptiveness of their subjects and the effectiveness of the many governmental agents (soldiers, accountants, advisers, ambassadors, etc.) to whom authority is delegated.[45] This *has* to be Cavendish's view, given her view on the dynamics of the plenum and on the limits and scope of agency. A monarch would not thereby be powerless; like the expert scientist who focuses a lifetime of study on the variables that enter into a single disease, and who attempts to work with their internal motions, a monarch can study the variables at play in the larger community of human beings and try to understand, and then anticipate, how and when subjects will behave peaceably.[46] But a monarch would always have more material to cover, and would be in need of much assistance:

> THere is no greater advantage to a Prince, then to prefer men that have the reputation, of being wise, valiant and honest, or those men that are great in alliance, or have great estates, for men of wisdom they inable their Princes, by their counsel, and men of valour they enable their Princes by execution, and honest men inable them by their trust, and men of alliances inable them by their power, and rich men help to maintain their war; but poor and mean-born men are

leaches that suck in the wealth of the kingdom, and spue it forth in vanities, they bring nothing to their Prince, but hatred from the commons, through envy to those that are preferred.[47]

a King hath more Title than Power, and more Power than Pleasure: for were all his Subjects Slaves, and all did Obey his Will, yet to Order and Govern them to his Will, requires Pains, Care, and Study; … for though good men make good Subjects, yet good men do not alwaies make good Soveraigns, as being not Piety, nor Moral Honesty, that makes good Kings, but Industry, Observation, Understanding, Judgement, Wit, Prudence, and Courage, that makes Kings Wise Rulers; also Counsels, Experience, and Practice…[48]

If monarchs depend for their authority and power on advisers and on individuals who implement that authority and power, and if all of these are human beings who enjoy partaking in expressions of power, domination, and cruelty, it is not clear why a monarchical government would be any more stable and cohesive than a government composed of similar human beings in the form of an aristocracy. The same threats to instability would appear to be present in both circumstances. In a monarchy, a single individual would not be able to secure order without assistance; to be effective, the monarch would need to form a larger cohesive unit with all of the individuals and entities on which the organization and security of the society depends, and the question for Cavendish is why that unit would be so cohesive and why a collection of aristocrats would not. Both might be cohesive; or perhaps Cavendish should say that both would be similarly unstable.

Cavendish has a response to the objection, but, in a way, it is damning for monarchy and aristocracy both. The response is that a monarchy has a slightly better chance than other forms of government of maintaining organization and stability for at least some period of time, but that the decay and destruction of any society is inevitable. A monarch might attempt to be an absolute authority, but in a plenum of competing interests, there is no such thing:

> if there were an *absolute power,* there would be no dispute: …but because there is no *absolute power,* therefore there be Disputes, and will be eternally: for the several degrees of *matter, motion,* and *Figure* strive for the Superiority…[49]

For Cavendish, the change and destruction of composites is a fixture of the plenum, even if there is a larger perspective from which matter is eternal and bodies behave in an orderly manner. A human society is a composite, and the decay and destruction of any composite cannot be avoided:

Thus *Time* doth ruine, brings all to decay,
Though to the *Gods* doth still devoutly pray:
For this *old Oake* was sacred to high *Jove,*
Which was the *King* of all the *Gods* above.
But *Gods,* when they created all at first,
They did ordaine all should returne to dust.[50]

there is a Perpetual war and discord amongst the parts of Nature, although not in the nature and substance of Infinite Matter, which is of a simple kind, and knows no contraries in it self, but lives in Peace, when as the several actions are opposing and crossing each other; and truly, I do not believe, that there is any part or Creature of Nature, that hath not met with opposers, let it be never so small or great. But as War is made by the division of Natures parts, and variety of natural actions, so Peace is caused by the unity and simplicity of the nature and essence of onely Matter, which Nature is peaceable, being always one and the same, and having nothing in it self to be crossed or opposed by; when as the actions of Nature, or natural Matter, are continually striving against each other, as being various and different.[51]

There is a necessary connection between a cause and its effect, and the plenum exhibits an order and harmony that is indifferent to the needs and goals of its particular regions. Configurations compete to maintain their respective quantities of motion, and they only last so long as their internal motions work in concert with each other, and so long as surrounding bodies do not get in the way. Given the details of the components that combine to form a human society, the government that maintains stability and order for any extended stretch of time is an outlier:

> IT seems to me a thing above Nature, that Men are not alwaies in War one against the other, and that some Estates live in Peace, somtimes forty or an hundred years, nay some above a Thousand (as the *Venetians*) without Civil Warrs.[52]

Cavendish supposes that societies of non-human beings are more integrated and cohesive – for example, bee hives, ant colonies, and forests – although all of these come to an end sooner or later themselves, especially if they come into contact with beings like us. The elements of such societies do not take pleasure in witnessing harm, and they do not seek to be the absolute and singular creature in nature. Human beings in addition are fickle and difficult,

> NAture hath not onely made Bodies changeable, but Minds; so to have a Constant Mind, is to be Unnatural; for our Body changeth from the first beginning to the last end, every Minute adds or takes away: so by Nature, we should change every Minute, since Nature hath made nothing to stand at a stay, but to alter as fast as Time runs; wherefore it is Natural to be in one Mind one minute, and in another in the next; and yet Men think the Mind Immortal. But the Changes of Nature are like the Sleights of a Juggler, we see many several Shapes, but still but one Matter.[53]

There are benefits to interacting with other human beings, but we can understand why Cavendish would recommend that we utilize some of our safety and security toward the construction of worlds of fancy.

A society of human beings is a composite like much else in the natural world, Cavendish is arguing, and there is no individual or set of individuals who can keep a human society together for the long haul. A government can fend off disorder temporarily – some kinds of government better than others – but things will come apart soon enough. Structural instability is a feature of all collections of human beings: those who compose an aristocratic government, those who surround a monarch and make possible his or her authority, and also the larger set of human subjects who reside in a commonwealth. We find the following passage in *Orations of Divers Sorts*:

> put the Cafe, I were a Wise man, and could Discharge the Office of a Magistrate, as a Wife man should do, yet if a Company of Fools or Knaves joyn together to oppose my Orders or Power, I can do little Good, nay, had I other Wise men joyn'd in Power and Authority with me, yet we should do little Good, for Fools and Knaves are too strong for Honest and Wise men, because they are far more in Number, and so much Odds there is, as there are thousands of Fools for one Wise man; Wherefore it is Fortune, or Chance, or some particular Favour from the Gods, that Govern Common-wealths, and not those they call Wife men; for the Wisest men in the World cannot keep a People in Peace, if they be resolv'd and set to Rebell; for when the Generalilty is up in Arms, it is a Folly for Particular Persons to oppose them; and when the Generality will pull down Particular Persons from their Power, Particular Persons can not stand; and when the Generality will alter a particular Government, the Government must change; Wherefore, the only and best means to keep up the Common-wealth, is to Pray to the Gods for Peace, and to keep the People as much as may be to Religious Ceremonies, that they may Fear the Gods, which Fear and Devotion will make them Obey their Magistrates, which I wish, and leave them.[54]

If this passage is in her own voice – and it certainly squares with her larger views on agency and the inevitable change and decay of the variegated regions of the plenum – Cavendish is saying that any government has little chance of lasting very long and that even a monarch can only do so much. A monarchy can perhaps be more effective than an aristocracy: Cavendish might return again to her view that an individual person has a better chance of being regarded as utterly exceptional, and as meriting obedience. In that case, however, the effectiveness of a monarchy would not be due to the power or authority of its monarch in isolation, but to the receptivity of the larger plenum of human beings. Cavendish would then be conceding (as she in fact does) that an individual monarch is not an absolute authority but instead is a being ideally situated to navigate the motions of human behavior, and in some cases to redirect them.

A somewhat sustainable order

Cavendish is not especially sanguine about the long-term prospects of any human society, at least if human tendencies remain what they are. Still, she proposes a number of guidelines that a monarch might hold constant in the attempt to be successful. She is happy to suggest advice:

> But I would have this Monarchy I make,
> To have a Judge that will good Counsel take;
> …To love his People, with a tender Care,
> To wink at Frailties which in Nature are,
> And Just to punish Crimes, as hating ill,
> Yet sorry for the Malefactor still;
> Glad to reward, and Virtue to advance
> In real Favours, not in Countenance,
> Not to pay Merits with good Words and Smiles;
> (Dissembling Promises poor Men beguiles)
> …But have the Eye of Memory so clear,
> The least good Service shall to him appear.
> Nor would I have one idly to neglect
> His Peoples safety, but for to protect
> Their Lives and Goods, with all the care he can,

And upright Justice to the poorest Man;
To be a Father to the Common-wealth,
And a Physician to restore them Health,
By purging out the Humours, which are Crimes,
Which Crimes, like corrupt Humours, breed oft-times
Factious Diseases, which without all doubt
Would Ruin bring, if timely not cast out:
….Nor such a Judge, as one that takes delight
To play at Cards and Dice most of the Night;
Or drink till drunk, then carried to his Bed,
As to a Grave, he seeming like one dead,
When he those watchfull hours, and times should spend
In thinking which way he should Errors mend;
For Commonwealths what ere, and Kingdoms, Realm,
Like Garments, have full many a Stitch and Seam:
This Publike Garment ost the Prince must view,
Where it is rent, cause't to be sticht a new,
Or else it soon wears out, in pieces fall,
And though they patch, it will not last at all.
…Not but Religious Orders are right meet;
For why, Religion is the Publicke Feet
On which the Common-Wealth in safety stands,
And Ceremonies are the Sacred Hands
To Consecrate good Custome, Dutious Zeal,
And make Obedience in a Common-weal.[55]

Here and in other passages Cavendish offers a number of suggestions that she supposes a monarch would be wise to keep in mind in attempting to organize the behavior of a society of human beings. Wise monarchs will host ceremonies in which their singularity is on full display; they will use majesty and other tools to manage our tendency to be selfish and cruel. A wise monarch will hold constant that human beings are desperate for fame and like to be

acknowledged; the monarch will see to it that "The least good Service shall to him appear."[56] Wise monarchs will be kind and fair, or at least make sure to be perceived as kind and fair, so that the kingdom of subjects is more likely to be receptive to their authority. Wise monarchs will also invest in education to help subjects to specialize in activities at which they can excel in order to increase the chances that they are satisfied and pliant. All of this is another way of saying that a wise monarch will implement steps to fend off disorder for as long as possible.

A wise monarch will organize ceremonies that display the grandeur of the monarchy and help to secure obedience. Cavendish writes for example that

> THough command is to have the first place as coming from nature or power, yet it cannot execute its power without order, and Ceremony; for ceremony and order are the two necessary parts of man, that uphold the natural, or powerful commands and obediences to the superiours from the inferiours; for commands and obedience make Common-wealths, which Common-wealths make contracts, which contracts make peace, and peace makes every one to enjoy a propriety, so as they work to one and the same end, though they are several, for commands creates Ceremony, Ceremony order, and order and Ceremony give distinction, distinction gives obedience, obedience peace.[57]

Something needs to counteract the human tendency toward selfishness and cruelty, Cavendish is supposing, otherwise it will find expression, and subjects will not "work to one and the same end." A successful monarch will accordingly see to it that his subjects regard his status and power as exceptional and far-reaching. Ceremonies and other forms of advertisement will heighten the majesty of the monarch in the eyes of subjects, and they also send a message to outsiders:

> As in stately Monuments, which shews a Kingdome in a Flourishing Condition, and gives it a Noble Grace, and makes it a Wonder abroad, and a subject of Discourse amongst Strangers, inviting curious and inquisitive Travellers from all Nations to view the Structures thereof.[58]

Potential invaders would be less willing to mount an attack if a monarch were seen as dangerous and insurmountable; they would better preserve their own quantity of motion, and the quantity of motion of their society, by staying put. Presumably the subjects of such a monarch would also be more likely to engage in behaviors that promote order and stability: they would register that the wherewithal of the monarch is so far reaching that violations of rules would in almost every case be exposed and punished.

For similar reasons, wise monarchs would align their authority with the authority of the church and with its claim to divine sanction:

> for Ceremonies it keepes the Church in order, and gives it magnificency: besides it is beneficial to the State, for it Amuses the Common people and busies their mindes, and it is as it were a recreation: and pastime to them, as Saints dayes and the like; nay they take pleasure, and make a recreation to have fasting dayes, so as they have much to think on, and imploy their time in, as fasting-dayes, processions of saints, confessions, penance, absolutions, and the like, as Mass and Musick, and shewes, as at Christmas, Easter, our Lady day, & on many dayes of the yeers, and these affording one and the same, but varieties in all; besides, every Saint having power to grant several requests; it will take up some time to know, what to ask of them, and all these one would think, were sufficient, to keep out murmur and discontent, which is got by idlenesse, which is the cause of rebellion. Thus the Church busies the people, and keeps their mindes in peace, so that these monastical ment, which are the Church, is the nurse to quiet the people, or the masters to set them on, wherein they never do, unlesse it be in the defence of Christian Religion, in which all good men ought to follow; and surely it is beneficial to the Common-wealth, whatsoever it be for the soul, and for their souls…[59]

A society benefits if its monarch is seen as transcendent and divine, for in that case its subjects would be more inclined to find alternative ways to channel their anti-social tendencies. We saw earlier that the Empress of the Blazing World is depicted as a magician, a mystery, a god: such a being would uncover malfeasance more easily than a regular human being, and if the anticipated punishment were sufficiently severe, insubordination would be infrequent. It is difficult to resist the thought that, in her descriptions of ceremony and of the power and reach of a monarch, Cavendish is writing in part with an eye to Hobbes and the problem of the fool.[60] To the subject who thinks that it is rational to break the laws of civil society, and who thinks that he can get away with it, Cavendish is suggesting that a capable sovereign would make sure that subjects have compelling reason to believe that the eyes and ears of the sovereign are ubiquitous: if a subject is ever in a situation in which he thinks that he might be under the radar, the sovereign would have seen to it that the subject has reason to believe that he is being watched or that the situation has been carefully staged. There is no text in which Cavendish suggests that rule-breaking would always be irrational for a subject – the tenets of her epistemology and metaphysics do not tend to be that exceptionless – but she does think that a monarch could get a subject into the habit of thinking twice.[61] A wise monarch would also make use of kindness, Cavendish supposes. Fear is an important and powerful motivator, but other tools can be productive as well:

> THere is nothing wins more upon the soul of men, than Civility and Curteous behaviour; it indears more than words: for Eloquent Oratory,

> though it insinuates, yes it is like a Tyrant that carrys the opinions of men like Captives by force, rather than wins them by gentle perswasions, neither will it do that unless it be mixed with an Elegancy of delivery and Curteous behaviour, which is without all affectation, which Eloquence seldom or never hath; but a free and Civil behaviour causeth affection to run after it, it abates the pride of the proud to meet it…[62]
>
> To keep the Common People in order, they must be awed with Fear, as well as nourished with Love, or flattered with Hopes.[63]

Cavendish allows that subjects need to be afraid of the monarch so that, when push comes to shove, individuals act in ways that promote the cohesion of the larger community. An individual will work to benefit their community if they see it as in their interest to do so, but in many cases it will not be in the individual's interest unless there is also implemented a penalty for refusal. Kindness and flattery on the part of the monarch will also be effective; they will play to a subject's self-love and desire for fame.

Wise and successful monarchs will also be on the lookout to see that their subjects do not find their own situation to be unfair, in a way that might lead them to desire to rebel. A monarch would be foolish to attempt to equalize the wealth in a kingdom – powerful and wealthy groups can also form a desire to rebel, and a stratified order is much more stable than no order at all. Accordingly, there would need to be performed a delicate balancing act.[64] Impoverished individuals need to feel that their situation is above the threshold of acceptable, and wealthy individuals need to feel that they are getting their proper due. Cavendish writes,

> THere is nothing causeth rebellion so soon as the unequal living of the subject; as for a Noble man, who strives to live like his King, a Gentleman to live like a Noble man, and a Pesant, or a Citizen to live like a Gentleman; For every man living not according to their qualitie, will in short time think his quality according to his expence, which must needs make a disorder, where there is an inequalitie of degrees, and not in expence: for the rate of the expence must be set at the degree of the person; for when a Noble man seeth an inferiour person in as good, or better equipage then himself, it begets envy, and envy causeth murmur, murmur faction, faction rebellion, and the inferiour sort living at the rate of the nobler sort begets pride, pride ambition, ambition faction, faction rebellion, and thus the Nobler sort striving to keep up their dignitie, and the inferiour through their pride out-braves the nobler, then those of the same degrees, are tempted to live above their abilities even with their equals, thus striving to out-brave one another, they run into poverty, and being poor, they fear no losse; for having little to maintain life, they set it at

> stake, either to lose all or to get more for in civil wars all is fish that comes to net whereas every man living in his degree, envy is abated, pride abated, luxury abated, neighbourly love and kindnesse bred and peace kept, and every one thrives in his qualitie, and grows rich by frugality, and riches beget care, care begets fear: and modest fear keeps peace.[65]

A wise monarch will hold constant a very wide range of variables; otherwise, instability is a virtual guarantee. There is a breaking point at which individuals will no longer make the contributions that end up promoting order, Cavendish is suggesting. A monarch needs to make sure that this point is never reached, and that it is never approached:

> if there should be more Mouths than Meat, and more Men than Business, they would devour one another in Civil-Warrs, and pull down the Fabrick of the Commonwealth, by breaking the Laws and Civil Customs thereof.[66]

A wise sovereign will make sure that subjects are never so impoverished that they will see the risk of civil war as worth pursuing. Impoverished subjects will instead be treated as well as possible, for example in the fair and consistent application and enforcement of laws.[67]

Cavendish would also advise the monarch to locate a way for impoverished individuals to feel that their situation is in fact privileged. Picking up on the discussion in chapter seven, the idea might be promoted that a simple life is more fulfilling and less complicated, or perhaps a poet could be marshaled to highlight the various benefits of membership in each social class. Cavendish remarks in one passage:

> That all Natural Poets shall be honored with Title, esteemed with Respect, or enriched for the Civilizing of a Nation, more than Contracts, Laws or Punishments, by Soft Numbers, and pleasing Phansics; and also guard, a Kingdom more than Walls or Bulworks, by creating Heroick Spirits with Illustrious Praises, inflaming the Mind with Noble Ambition…[68]

A monarch, or the monarch's staff of poets, might work to make different individuals and groups feel pride at the role that they play in contributing to the order and stability of society – a society that is shown in ceremonies to be magnificent and worthy of investment. Fame would be on offer as well. What is nowhere on offer, at least not from Cavendish, is a proposal to abolish social hierarchies and regard all people as equal. The result would be chaos:

> but civil wars may be compared to a pair of cards, which when they are made up in order, every several sute is by it self, as from one, two,

and three, and soe to the tenth card, which is like the commons in several degrees, in order, and the coate cards by themselves which are the Nobles; but factions, which are like gamesters when they play, setting life at the stake shuffle them together, intermixing the Nobles and Commons, where loyalty is shuffled from the crown, duty from Parents tendernesse from children, fidelity from Masters, continencies from husbands and wives, truth from friends, from justice innocency, charity from misery; Chance playes, and fortune draws the stakes.[69]

Here Cavendish goes to the extreme of suggesting that the destruction of a society's class system would likely result in wholesale civil war. We might be able to imagine a scenario in which a society's class system is abolished and the society does not come apart, but that would be an imagining only: we would be leaving out a number of variables that are in play in real life and that soon enough would make themselves known. A monarch needs to perform a delicate balancing act: the poorest subjects need to have enough resources to actively contribute to the health of the society, or at least to not be inclined to bring it down, and the wealthy need to feel that they are getting what is theirs.

A wise sovereign will also make sure that subjects have access to letters and to education more broadly: to poetry that softens our animalistic and reactive side;[70] to plays and other representations that model the pleasure of civilized behavior;[71] and also to philosophy and history.[72] Cavendish writes,

> the mind will be Wild and Barbarous, unless it be inclosed with Study, Instructed by Learning, and Governed by Knowledg and Understanding, for then the Inhabitants of the Mind will live Peaceably, Happily, Honestly, and Honourably, by which they will Rule and Govern their associate Appetites with Ease and Regularity.[73]

A successful monarch will take steps so that subjects are educated in ways that incline them toward behaviors that promote the stability of the commonwealth.[74] Education is a kind of breeding, and if a given individual can be bred in a whole spectrum of ways, they can be bred in ways that promote civic order.[75] One of the benefits of education, Cavendish thinks, is that our minds become more filled with information that assists us in navigating the world – not only to achieve our local aims, but to work toward the larger goal of security and peace.[76] Monarchs have the ability to make education more available, and they would be wise to exercise it. Cavendish indeed says in one passage that a ruler should empty some of the decorated rooms of the castle and turn them into a library for all to use:

> This Royal Ruler to have none of those they call their Cabinets, which is a Room filled with all useless curiosities, which seems Effeminate, and is so Expensive, bestowing infinite Sums, almost to

the impoverishing of a Kingdome, only to fill a Room with little cut, carved Statues, and Models of Stones and Metals; as also divers Toyes made of Amber, Cornelion, Agats, Chrystals, and divers sorts of Shels, and the like; which Room might be better imployed, and to more use, in placing Famous and Learned Authors Works, as a Library, which the whole Kingdome may draw Knowledge and Understanding from, and the Money imployed to more famous Curiosities than Shels, or the like…[77]

There is a lot at stake in the education of the subjects of a commonwealth. The difference between one sort of education and another can be the difference between social disorder and harmony: educated subjects will be better able to work toward the goal of social stability, and a monarch will be better able to navigate the inclinations of his subjects if they have been primed to follow his lead. There will be self-love, cruelty, radically incomplete representations, and an almost inextinguishable desire to exist in the minds of others. A wise monarch will work with all of these forces as much as possible to direct them in ways that they would not go on their own.

Cavendish lays out a number of recommendations for the sovereign, all in line with her larger set of systematic commitments. We find carrots and sticks, articulations of human nature, and statements about how best to navigate it. The recommendations include statements of the importance of social rank – in which self-loving human beings no doubt have an investment – and other claims that bear on the need for a monarch to go with the grain. She writes,

> That all degrees of Titles shall be distinguished by their Habits and Ceremonies, as well as by their Arms, Titles, Patents, and Creations.
>
> *Item,* Rewards shall be as frequent as Punishments, lest Industry should grow careless, and the Flame of Heroick Spirits be quenched out.
>
> *Item,* All Detracting or Slandering Tongues shall be clipt and the more the Detraction or Slander is, the greater slices shall be cut therefrom.
>
> *Item,* That the People shall have set times of Recreation, to ease them from their Labours, and to refresh their Spirits.[78]
>
> That none shall execute the Function of two several Trades, nor be imployed in more than in one Office, lest they should perform none well.[79]

A wise monarch will implement policies and practices that are sustainable. Subjects will have at least some time for leisure, and they will be sufficiently skilled at what they do that they might enjoy it. Rebellion will be crushed, if necessary, but Cavendish supposes that the most stable society is one in which subjects are motivated as much by a fear of punishment as by desires and

goals that have been brought collectively into line. People act freely and voluntarily, and with less frustration, if they can pursue their goals without obstacle, and they cannot pursue goals at all if there is constant conflict, or if there exists the looming prospect of civil war. If the desires and goals of subjects can be made to square with the goal of the security of the society itself, the society will constitute an integrated individual that has a chance of maintaining its quantity of motion for an extended period of time.

Wise monarchs would also go with the grain on a more personal level. Their work will be extremely difficult, but a successful monarch will secure the personal benefit of a pleasurable sensation of power and a pronounced degree of fame. The happiest monarch will be one who behaves skillfully in ways that bring about and maintain security and order. Such a monarch will be the least troubled, and will live on in other minds:

> WE may see our Loss by our Love, and our Love by our Grief, and our Grief by our Tears; but we have reason for our General Mourning and Sorrow in every Heart, that our Dread *Soveraign* is Taken from us. He was our Earthly God, as our Protector, Defender, Assister, Subsister, Ruler, and Governour; he Protected us with his Justice, Defended us with his Arms, Assisted us with his Prudence, Subsisted us with his Love, Ruled us with his Power, and Govern'd us by his Laws; and such a Prince he was, as he was Dreadfull to his Enemies, Helpfull to his Friends, and Carefull of his Subjects; he hath Inlarged his Dominions with the Sword, and Inriched his People with the Spoils, and hath Increas'd his Power both by Sea and Land, and so Strengthned and Fortified his Kingdomes, as his Subjects have no cause to Fear any Forein Invasion, but may safely sit with Pleasure under their own Vines: And so Wise and Good a Prince he was, that, though he be Gone, yet he hath left Peace and Plenty amongst his People, and Power, Dominion, and Strength to his Successors, with which Heaven grant they may Inherit his Wisdome, Moral Vertues, Divine Graces, Heroick Spirit, Good Fortunes, and Great Fame, that though our Old *Soveraign* is gone to the Gods above, yet our New *Soveraign* may be as a God to us here; for which let us pray to our *Soveraign* Saint, to intercede for us to the Gods on High, to indue their Deputy on Earth with Divine Influences, and Humane Wisdome, to Govern and Rule us as he did.[80]

Wise monarchs will take into account the suggestions that Cavendish proposes, or they will come up with perhaps better ways to secure order. Even if they work tirelessly, however – to provide opportunities for subjects to live well in the minds of others; to sponsor ceremonies; to punish rule-breakers; to respect existing social hierarchies; to implement policies by which fear and courtesy can redirect the instinct to self-love – things will eventually come apart. A monarch

is charged with organizing the behavior of human beings who tend to be extremely selfish, and who are unconcerned with the well-being of those who surround them. We tend to be cruel, and we are guided by representations that are incomplete and that are skewed further by our biases. We seek fame and will do almost anything to secure it. A successful monarch would have to work with these difficult variables and find a way to direct them into relative cohesion. Presumably, most individuals would not be successful as monarchs. We would be miserable attempting to pull off the requisite balancing act, and if we did have a strong desire to rule, we would be better off to turn to a world of stoical fancy. Cavendish does not express any interest in being monarch herself, at least not in the actual world. It is not difficult to imagine why. Instead, she writes, and reflects, and imagines. And she is singular in her pursuit of all three.

Notes

1 "The vastness of desires," *WO*, 40.
2 *NP*, 391–392.
3 "Friendship of Parents and Children," *WO*, 155. See also the similar view in Hobbes, *Leviathan*, I.xv.16, 95. As we will see, Hobbes and Cavendish have very similar views on human nature and human motivation and on the steps that would have to be taken to keep these in check.
4 "Of Self-Love," *WO*, 145.
5 Hume seemed to be one. See for example *An Enquiry Concerning The Principles of Morals*, section five, 108–118.
6 "Natures three daughters," in *Playes*, 503–504.
7 Note that Cavendish puts forward some less cynical claims about human nature in her plays, but in the light of the more overarching statements that she makes in her philosophical texts, it is tempting to read those claims as still grounded in a view of sublimated self-interest. But see for example "Youths Glory, and Deaths Banquet," in *Playes*, 177–179.
8 "A Moral Tale of the Ant and the Bee," *NP*, 284. See also the discussion in Hobbes, *Leviathan*, I.xvii.6–12, 108–109.
9 "Of a Butcher and a Fly," *NP*, 294–296.
10 "A Dialogue of Birds," *Poems and Fancies*, 72-73.
11 "The Claspe," *Poems and Fancies*, 112–113. See also *SL*, Letter CXXIV, 248–253, and Letter CCV, 433–435.
12 *ODS*, 27.
13 *PL*, 40–41.
14 "Of Tyrannical Government," *WO*, 49–50. See also Boyle (2006), 258–260, 282–286.
15 See also Lewis (2001), 345; Boyle (2006), 282; and James (2003b), xxiv–xxviii. For the similar view in Hobbes, see *Leviathan*, II.xix, 118–127.
16 See for example James (2003b), xxiv.
17 See also Sarasohn (2010), 78–79.
18 *NP*, 601–603.
19 *NP*, 566.
20 *NP*, 549.
21 *NP*, 571.
22 *NP*, 613–615.
23 *NP*, "The Preface," unnumbered.

24 *NP*, 611.
25 *NP*, 634–636.
26 See also Hobbes, *Leviathan*, II.xix.6–8, 120–121.
27 *ODS*, 285–286.
28 "A Souldiers Oration concerning the Form of Government," *ODS*, 277–279. See also "An other Oration different from the two Former," *ODS*, 280–281, in which it is argued that the best form of government is neither a pure monarchy nor a pure aristocracy.
29 "A Moral Tale of the *Ant* and the *Bee*," *NP*, 286.
30 See also Sarasohn (2010), 109–111.
31 *ODS*, 122.
32 "Of a civil War," *WO*, 55.
33 *ODS*, 112–113. The passage continues, "Neither can Monopolies be Beneficial to the Commonwealth, for the Common-wealth thrives in Equal Distributions, whereas Incrochments, Ingrossings, and Hordings of several and particular Commodities, Impoverish the Commonwealth, like as when some men Hord up Corn, it causes a Dearth, Inhansing the Price so High as the Poorer People are not able to Buy it, or at least not so much as daily to Feed them; the like for Money; when Rich Miserable men Hord up Money, it makes such a Scarcity of it, that the Poor People, although they Labour Painfully, yet cannot get enough to Maintain Themselves, their Wives, and Children; for the Scarcer Money is, the Cheaper is their Work, in so much as Poor Labouring men cannot get Half the Worth of their Labour…" See also "An Oration Against Civil Warr," *ODS*, 260–265; "An Oration to prevent Civil Warr," *ODS*, 11; "An Oration against a Tumultuous Sedition," *ODS*, 265–266; "A Kings Oration or Speech to his Subjects," *ODS*, 289.
34 "A Description of the Battle in Fight," *Poems and Fancies*, 173.
35 See also Hobbes, *Leviathan*, I.xiii, 74–78.
36 "A *Dialogue* Betwixt *Peace*, and *War*," *Poems and Fancies*, 90-91.
37 See also *NP*, 138–139.
38 See also Hobbes, *Leviathan*, I.xviii.19, 117.
39 *NP*, 185.
40 *BW*, 136–138.
41 "Deaths Banquet and Youths Glory," *Playes*, 155–156. Note that, like she-anchoret, Sanspareille has almost all of her philosophical views in common with Cavendish. For a similar view in Hobbes, see *Leviathan*, I.xi.26–27, 62–63; I.xiv.31, 87–88; and II.xxxi.33, 241.
42 See also *WO*, 112.
43 "Allegory 14," *WO*, 99.
44 *PL*, 48.
45 See also James (2003b), xxv–xxvi. See also *SL*, Letter LXXXVIII, 174.
46 See also Walters (2014), 180–182.
47 "Of the favour of Princes," *WO*, 50.
48 See also *ODS*, 131–132.
49 *PPO*, 5. See also *PF*, 11–12.
50 "Of an Oake in a Grove," *Poems and Fancies*, 161. See also "*Natures* Exercise, and *Pastime*," *Poems and Fancies*, 139.
51 *PL*, 278–280. See also *WO*, 81: "Nature loves Peace, although she hath made all things to War upon one another…" See also *PF*, 14: "For *Naturall Warre,* and *Peace* proceed from Selfe-preservation, which belongs only to the *Figure;* for *nothing* is annihilated in *Nature,* but the particular *Prints,* or *severall shapes* that *Motion* makes of *Matter;* which *Motion* in every *Figure* strives to maintaine what they have created: for when some *Figures* destroy others, it is for the maintenance or security of themselves…" See also *PPO*, 5.

52 "Of Natural Wars," *WO*, 162–163. See also *NP*, 193: "there is no Certainty of Constancy, nor no Cure in Time, nor no Settlement in life." See also Hobbes, *Leviathan*, I.xiii.8–13, 76–78.
53 "Change in Nature," *WO*, 162. See also "Of Decay," *PF*, 23.
54 *ODS*, 61–62.
55 *WO*, unnumbered, but just after p. 216.
56 See also the discussion in Boyle (2006), 261–266. Boyle argues that, for Cavendish, self-interest is a primary motivator of human beings, but that we are also driven in large part by our desire for fame. I am assuming that self-interest would be at work in the case of the latter as well, given how closely Cavendish identifies our embodied earthly self with the self that would continue to exist in fame after we die.
57 "Of Command and order," *WO*, 52. See also *SL*, Letter CLII, 317–318.
58 *WO*, 207.
59 *WO*, 30.
60 *Leviathan*, I.xv.4–5, 90–92.
61 Walters (2014), 184–188, suggests this point also.
62 "Of Behaviour," *WO*, 58. See also "Clemency makes the greatest Monarch," *WO*, 49: "HE is the greatest Monarch that is most beloved of the subject, because he hath not onely the power over mens bodies, but over their minds; where he that is hated and feared hath only a power of the body; but the minde is a rebel, and stands out against him, thus freedom makes obedience, when bondage, and slavery, is but a forced authority, because content is not there, and there is more labour in Tyranny, with whipping the people into obedience, then the pleasure of being obeyed…"
63 *WO*, 112. See also *ODS*, 269–270: "But that I Wonder at most, is, that so Great a Body as you were, should not only be Headless, but also Heartless, as having neither Wit nor Courage. Wherefore, to Conclude, let me Perswade you, having never a Head of your Own, to send to your Gracious Soveraign to send you a Head, and he will not only send you a Head, but a Wise Head, to Rule and Govern you, and as for a Heart, Fortune in time may Give you One."
64 See also Fitzmaurice (1997), xvii. Fitzmaurice makes the interesting point that although Cavendish focuses on the upper classes in her plays, she includes perspectives of members of lower classes, and "even the poorest and least privileged get their due."
65 "The Cause of Rebellion," *WO*, 51. See also Hobbes, *Leviathan*, II.xxx.15–18, 226–228.
66 *NP*, 284–285. See also *ODS*, 15–16.
67 *WO*, 112.
68 *WO*, 212.
69 "Of a civil War," *WO*, 55.
70 *WO*, 64.
71 See James (2003b), xxviii.
72 *WO*, 6.
73 *SL*, Letter XXVI, 51. See also "An Oration concerning the Education of Children," *ODS*, 212–214.
74 See also Hobbes, *Leviathan*, II.xxx.7–14, 222–226.
75 "Of the breeding of children," *WO*, 60–61. See also Boyle (2006), 264.
76 See also Boyle (2006), 285–287.
77 *WO*, 207.
78 *WO*, 209.
79 *WO*, 208.
80 "An Oration to the People concerning the Death of their Soveraign," *ODS*, 146–147.

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